THE JOURNAL
OF
SPECULATIVE PHILOSOPHY.

Vol. XI. July, 1877. No. 3.

THE METHOD OF UNIVERSITY STUDY.

Translated from the German of F. W. J. von Schelling,* by ELLA S. MORGAN.

FOURTH LECTURE.—UPON THE STUDY OF THE PURE SCIENCES OF REASON, MATHEMATICS AND PHILOSOPHY IN GENERAL.

That absolute unity out of which flows all sciences,and into which which they return, is archetypal knowing (*Urwissen*), by whose penetration into the concrete, the totality of knowledge forms itself from one central point outward into its outer-most branches. Those sciences in which it (*das Urwissen*) reflects itself as in its most immediate organs, and in which the knowing, as that which is reflected, coincides with the archetypal knowing as that which reflects, are like the general sensoria in the organic body of knowing. It is from these central organs that we must proceed, in order to derive life from them, through various sources to the outermost parts.

For one not already in possession of that knowing, which is one and the same with archetypal knowing, there is but one way leading to its recognition, and that is by the contrast with other knowing.

* *Ueber die Methode des Akadamischen Studiums.*

It is impossible here to explain how it is that we arrive at the cognition of something particular; so much may be shown even here, and that is, that such cognition cannot be absolute, nor, consequently, can it be unconditionally true.

This is not to be understood in the sense of a certain empirical skepticism, which doubts the truth of sensuous ideas—that is, ideas directed altogether toward particular things—on account of the illusion of the senses, so that if there were no optical and other illusions, we might be nearly certain of the knowledge derived from the senses. Still less in the sense of a general crude empiricism which doubts the truth of sensuous ideas on the whole, because the affections, from which they arise, first pass through soul to reach soul, and must, therefore, receive modifications in transition. All causal relation between knowing and being is a part of the illusion of the senses and, if the former is a finite knowing, it is so by reason of a determination which lies within itself, and not outside itself.

But the very fact that it is a particular knowing makes it dependent, conditioned, and subject to constant change. That quality of being particular which makes it possess manifoldness and variety, is the form. The essence of knowing is one, the same in all things, and for that reason cannot be determined. Hence, that which distinguishes (one) knowing from "another" knowing, is the form which makes its appearance in the particular, having its origin in the indifference of the essence which in so far we may call the universal. But form separated from essence is not real, is mere appearance, hence the particular knowing, purely as such, is no true knowing.

To the particular stands opposed the pure universal, which, as separated from it, is called the abstract. It is here impossible to make plain the origin of this knowing; it can only be shown that, when in the particular, the form is not an adequate expression of the essence, the pure universal must appear to the understanding as essence without form; where the form is not recognized in and through the essence a reality is cognized which is not thoroughly comprehended from the potentiality, as particular and sensuous determinations cannot be deduced from the general idea of substance in its eternal form; whence those who stop at this antithesis take for granted beside the general, a particular somewhat under the name of *matter* as the general source of sensuous diversities. In the contrary case pure, abstract potentiality is con-

ceived, from which there is no way out to reality; and this and the former view, to speak with Lessing, are the broad ditch before which the great mass of philosophers have always come to a standstill.

It is sufficiently clear that the ultimate ground and the possibility of all truly absolute knowledge must rest in this, that precisely the general, at the same time the particular, and that which appears to the understanding as mere potentiality without reality, essence without form, just this is also reality and form. This is the idea of all ideas, and from this source we have the idea of the absolute itself. It is no less evident that the absolute in itself considered, since being just only this identity, in itself neither the one nor the other of the opposites, but that as the identity of both, cannot manifest itself except either in the real or in the ideal.

The two sides of knowledge, that in which reality precedes potentiality, and vice versa, may again be contrasted with each other as real and ideal. If it were conceivable that in the real or ideal neither one of the opposites was more evident than the other, but the pure identity of both as such manifested itself, without doubt, there would be the possibility of an absolute knowledge within the phenomenon.

To conclude from this point, if there were, in the real, a reflection of the identity of potentiality and reality purely as such, it could appear neither as an abstract idea nor as a concrete thing: the former because it would then be a potentiality opposed to a reality, and the latter because it would be a reality opposed to a potentiality.

Further, as it would have to appear in the real purely as identity, it would have to appear as pure being, and, in as far as activity is opposed to being, as the negation of all activity. The same is to be seen from the principle already laid down, namely: that everything which has its opposite in some other is only so far absolute as it is again the identity of itself and its opposite, for, according to this the real can only appear as identity of potentiality and reality, in so far as it is itself absolute being, and hence must negate every opposite.

Now space is undoubtedly such pure being with negation of all activity, but it is not an abstraction—otherwise there must be several spaces, and space in all spaces is only one, nor is it concrete—otherwise there must be an abstract idea of it compared

to which it as particular would not perfectly correspond. But space is a totality; in it being exhausts the idea, and it is because it is absolutely real, and for this reason only, that it is also absolutely ideal.

To determine the equal identity, so far as it appears in the ideal, we can make use directly of the antithesis with space, for since it manifests itself as pure being, with negation of all activity, then the other must represent pure activity with the negation of all being. But for the reason that it is pure activity, according to the principle stated, it is also the identity of itself and its opposite, that is of potentiality and reality. Such an identity is pure time. There is no being as such in time, there are only the changes of being, which manifest themselves as expressions of activity and as negations of being. In empirical time, potentiality as cause precedes reality, in pure time they are one and the same. As an identity of the general and particular, time is neither an abstract idea nor a concrete thing, and in this regard the same holds good as in space.

These examples are sufficient to show that in the pure perception of space and time, we have a true, objective perception of the identity of potentiality and reality as such; likewise, that both are only relatively absolute, since neither space nor time presents the idea of all ideas in and for itself, but only in separate reflection; that, for the same reason, they are neither determinations of its interior nature, and that if the unity expressed in both is the basis of a systematic knowledge or science, systematic knowledge or science belongs merely to the reflected world, but must nevertheless be absolute as far as form is concerned.

If then—as I cannot here prove, but will only pre-suppose as proven in philosophy—mathematics, as analysis and geometry, is based wholly in those two modes of perception, it follows that in each of these sciences a mode of knowledge must prevail which is absolute as to its form.

Reality in general, and the reality of knowledge in particular, depends neither entirely upon the general idea nor upon the particularity. Mathematical knowledge is neither that of a mere abstraction nor of a concrete something, but is the science of the idea presented in sense perception. The presentation of the general and particular in a unity is called construction, which is not really distinguished from demonstration. The unity ex-

presses itself in a twofold way. Firstly, to retain our example of geometry, in all its constructions which are distinguished among each other as triangle, quadrangle, circle, &c., the same absolute form is at the basis, and nothing is necessary to their scientific comprehension in particular beyond the one general and absolute unity. Secondly, that the general of every particular, for instance, the general and the particular triangle, is one and the same; on the other hand, the particular triangle stands for all and is, at the same time, unity and totality. The same unity expresses itself as that of form and essence, since the construction, which as knowledge would seem mere form, is likewise the essence of that which is constructed.

It is easy to make the application of all this to analysis.

The position of mathematics in the general system of knowing is sufficiently definite; its relation to the university course of study necessarily follows from it. A mode of knowledge which elevates knowing above the law of causality which prevails in common knowing as in a large part of the so-called sciences, into the realm of a pure identity of reason, needs to have no external end. Besides, however one may acknowledge the great results of mathematics in its application to the general laws of motion in astronomy and physics, one who esteems it for these results alone would not attain to a knowledge of the absoluteness of the science of mathematics, and this for the reason that generally as well as particularly these results owe their origin in part to a misuse of the testimony of pure reason. Modern astronomy, as theory, depends upon nothing but a transformation of absolute laws, which may be deduced from the idea, into empirical necessities, and has attained this object to its complete satisfaction. Moreover, it cannot concern mathematics, in this sense and as now conceived, to understand the least of the essence or being in itself of nature and its objects. For this, it would be necessary that mathematics itself should first of all return into its origin, and comprehend more universally the type of reason which it expresses. So far as mathematics in the abstract, like nature in the concrete, is the most perfect objective expression of reason itself, so far must all the laws of nature, as they are resolved into pure laws of reason, find their corresponding forms in mathematics; not as has been heretofore assumed, that the latter is determinative of the other, and nature but the mechanical part in this identity, but that mathematics and the science of nature are only one and the same science looked at from different sides.

The forms of mathematics, as now understood, are symbols, the key of which is lost to those who hold them, but which Euclid still possessed, as it seems from certain indications and the reports of the ancients. The road to re-discovery can only be by conceiving them as forms of pure reason and expressions of ideas which in the objective form are transformed into another. In proportion as present instruction in mathematics is little likely to lead back to the original meaning of these forms, philosophy will suggest on the road now entered upon the means of the solution and restoration of that ancient science.

The young student should pay special attention to this possibility, as well as to the important contrast of geometry and analysis, which correspond in a remarkable manner to that of realism and idealism in philosophy.

We have indicated in mathematics the merely formal character of the absolute mode of knowledge, which it will retain as long as it is not seized as perfectly symbolic. Mathematics still belong to the merely derivative world in so far as it shows the archetypal knowing, the absolute identity, only in reflection and, as a necessary consequence, is an isolated phenomenon. A simple and, in every respect, absolute mode of knowledge would, therefore, be one which had the archetypal knowing itself, in and for itself, as ground and object. But the science which is not derived from another, must be the science of all knowing, that is, philosophy.

We cannot here give any proof which would force everyone to acknowledge that philosophy is science of archetypal knowing. It can only be proved that such a science is necessary from the nature of things, and we may be sure of our ability to prove that any other idea of philosophy which might be advanced is no idea of this or of any possible science.

Philosophy and mathematics are alike in this, that both are founded on the absolute identity of the universal and particular. Hence both, so far as every unity of this kind is sensuous intuition, are altogether in sensuous intuition. But the intuition of the former cannot be, like the latter, a reflected intuition; it is an immediate rational or intellectual intuition, which is identical with its object—with archetypal knowing itself. Representation in intellectual intuition is philosophic construction, but as the general unity which lies at the basis of all, so the particular (unities) in each of which the equal absoluteness of archetypal

knowing is included, can only be contained in intellectual intuition, and are thus far ideas. Philosophy is therefore the science of ideas, or of the eternal archetypes of things.

Without intellectual intuition no philosophy! Even the pure intuition of space and time is not in the common consciousness as such, for they are only intellectual somewhats reflected in the sensuous. But the mathematician has given him the means of the external exposition; in philosophy intuition itself falls wholly within reason. He who does not have it cannot understand what is said of it, therefore it cannot, from its very nature, be given. A negative condition of its possession is the clear and internal insight into the nothingness of all, merely finite knowledge. It may be cultivated, it must become part of the character of the philosopher, his constant instrument, his capacity, to see everything only as it presents itself in the idea.

I have not spoken of philosophy generally, only as it concerns the first scientific education.

To speak of the use of philosophy I consider beneath its dignity. He who can inquire as to its utility, is certainly not even capable of possessing its idea. Of itself it is exempt from considerations of utility. It is for itself only; to be for the sake of another would be the immediate annihilation of its essence.

I do not consider it altogether unnecessary to speak of the objections which are raised against it. Philosophy does not recommend itself by its usefulness, but neither should it be limited in its outward relations by the seemingly dangerous influences which are ascribed to it.

FIFTH LECTURE.—THE ORDINARY OBJECTIONS TO THE STUDY OF PHILOSOPHY.

If I do not pass over in silence the reproach which has become so common, that philosophy is dangerous to religion and the State, it is because I believe that the most of those who have opposed it were not in condition to do the subject justice.

The obvious answer would be, what kind of a State and what kind of religion can that be which is endangered by philosophy? If there were really a danger, the fault would be in the pretended religion and the self-styled State. Philosophy follows only its own inner principles, and can concern itself little as to wheth-

er everything devised by man agrees with it. I do not here speak of religion. I propose, in what follows, to show the inner unity of both religion and philosophy, and the way in which one begets the other.

As respects the State, I put the question generally: In a scientific relation where is the right to say or fear that philosophy is dangerous to the State? In that case it will undoubtedly appear whether philosophy is of that character, or whether anything dangerous to the State can result from it.

There is one tendency in science which I hold to be destructive, and another that is corrupting to the State.

The first is when ordinary knowing aspires to the absolute, or to be a judge of the absolute. Let the State but once favor the belief that the common understanding is the umpire of ideas, and it would soon get above the state whose constitution founded on reason, it comprehends as little as it does ideas. The same popular arguments with which it expects to combat philosophy can be used, and more effectively, to attack the first forms of the State. I must explain what I mean by the common understanding: By no means alone or chiefly the crude and entirely uncultivated understanding, but the understanding cultivated by false and superficial education, to be content with hollow and empty *raissonement*; which considers itself absolutely cultivated, and has expressed itself, pre-eminently in modern times, by deprecating everything which rests upon ideas.

It is to this emptiness of ideas, which boldly calls itself enlightenment, that philosophy is chiefly opposed. It must be conceded that no nation has succeeded better than the French in this elevation of the discursive understanding above reason. Hence, it is the greatest, and also an historical, absurdity to say that philosophy is dangerous to the preservation of the principles of justice. (I use this expression because there might be constitutions and conditions of things to which philosophy, though not dangerous, could not be favorable.) That nation especially which (except a few individuals of former times who certainly will not be accused of influencing the political events of a later time), has no philosophers in any epoch, least of all in that which preceded the revolution, that nation gave an example of a revolution characterized by horrors of barbarity with the same wantonness with which it afterwards returned to new forms of slavery. I do not deny that there are in France *raissoneurs* in all science and

in all directions who have usurped the name of philosophers. But there would scarcely be one of them to whom one of us would concede it. It is not to be wondered at, and it would even be praiseworthy (if one were not otherwise persuaded of its dignity and importance), that a powerful government should proscribe those empty abstractions of which the scientific ideas of the French wholly, or in part, consisted. Empty notions of the understanding are, indeed, as incapable of building up a State as they are a philosophy; and a nation which has not access to ideas does right in searching for at least the remains of the existing ruins of past forms.

The elevation of common sense to the umpireship in things of the reason, necessarily leads to mob rule in the realm of science, and with this, sooner or later, the general exaltation of the mob. Dull, hypocritical talkers, who would like to put a certain sickly-sweet mixture of so-called moral principles in place of the authority of ideas, do but betray how little they know of morality. There is no morality without ideas, and all moral action is such only as the expression of ideas.

The other tendency, in which the first is lost, and which must conduce to the dissolution of everything founded on ideas, is the utilitarian tendency. If this is the highest standard for all things, it must also be valid for the State Constitution. But there is no more variable security, for that which is useful to-day will be the contrary to-morrow. But in addition this tendency by whatever influence it is propagated, must necessarily stifle all greatness and energy in a nation. According to the utilitarian standard, the discovery of the spinning-wheel would be more important than that of a world-system, and the introduction of Spanish sheep-raising into a country would be more respected than the transformation of a world by the godlike power of a conqueror. If a philosophy could make a nation great, it would be one which rested wholly in ideas, one which did not devote itself to refinements of pleasure or make love of life the first motive, but one which taught contempt of death and did not psychologically analyze the virtues of great characters. In Germany—since no external bond has the power—only an inner bond, a governing religion or philosophy, could recall the old national character which is fallen into decay. It is certain that a small, peaceful race, destined to no great ends, needs no great motive; it is sufficient for such an one if it can eat and drink comfortably,

and devote itself to industry. Even in larger States the disproportion of means to ends which a poor soil offers, forces the government itself to favor this spirit of utility, and to guide all arts and sciences in that direction. Doubtless philosophy can be of no use to such States, and when princes begin to be increasingly popular, when kings themselves are ashamed of being kings, and wish to be only "First Citizens," philosophy likewise can but begin to transform itself into a citizen's morality, and descend from its high regions into common life.

The constitution of the State is an image of the constitution of the realm of ideas. In the latter, the Absolute is the power from which everything begins, it is the monarch; the ideas are—not the nobility, or the people, for these are notions which have no reality except as opposites of each other, but the freemen. The single real things are slaves and bondsmen. There is a similar hierarchy of the sciences. Philosophy lives only in ideas; it leaves to the physicist, astronomer, etc., all occupation with particular, real things. But these are, of course, only "eccentric views," and who still believes, in these times of humanitarianism and enlightenment, in the supreme relations of the State?

If there were anything able to check the progress of the stream which, more and more visibly, effaces the barrier between high and low (since the mob aspires to writing, and every plebeian to the rank of critic), then it is philosophy, whose appropriate motto is

Odi profanum vulgus et arceo.

After, and not without effect, philosophy had been decried as dangerous to the State and religion; the professors of different sciences finally raised their voices against it, as if it were also pernicious in this relation, asserting that it holds itself aloof from the elementary sciences, represents them as superfluous, &c.

It would, indeed, be an excellent thing, if professors in certain branches could step into the rank of the privileged classes, and if it could be established by the State that there should be no progress, or even any change, in any department of knowing. It has not yet gone so far, at least not generally, and probably never will. There is no science which, in itself, would be in opposition to philosophy; on the contrary, all sciences are one in and through philosophy. It is, therefore, only science as it exists in some human brain, and if this is in contradiction to the science

of all sciences, so much the worse for it! Why, then, has geometry remained so long in undisturbed possession of its theorems and in quiet progress?

I know that nothing is so calculated to inspire respect for science as the thorough study of philosophy, although this "respect" may not always be respect for sciences as they now are. And if those who have gained an idea of truth in philosophy, turn from the groundless, bottomless and inconsistent thing which is offered them under the name of science in other departments, and seek the deeper, more solid and more consistent, then it is pure gain for science itself.

That those who approach the sciences still fresh, without preconceived opinions, and with the first and still unperverted desire for truth—that these should be embalmed like intellectual mummies, and carefully guarded from every breath of doubt as to what has always been considered valid, even from the certainty of its invalidity, is at least offensive to my notion of right.

In order to be able to go into other sciences, they must first have received the idea of truth from philosophy, and surely anyone will be interested in a science in proportion to the ideas he brings with him. As I myself, during the time I have taught here, have seen a more general zeal in all branches of natural science revived through the influence of philosophy. Those who have so much to say of its injurious effects on youth, are to be found in one of the following classes: Either they have really acquired the science of philosophy, or they have not. As a rule the latter is the case. How, then, can they judge? Or, in the former, in which they owe to the study of philosophy itself the benefit of seeing that it is of no benefit; as they used to say of Socrates, that he at least owed it to his knowing that he knew that he knew nothing. They should share this advantage with others, and not wish to be believed on their word; especially as one's own experience will always make a stronger impression than another's assurance. Not to speak of the fact that their ingenius polemic against philosophy would be incomprehensible to the young, and their insinuations, however coarse, would be lost on them without that knowledge of philosophy.

The ordinary consolation wherewith they console themselves and each other at the fruitlessness of their warnings and admonitions is, "that after all, philosophy will not have a very long life; that it is only a thing of fashion which will pass away in time, as

has happened before; that, besides, new philosophies arise every moment," &c.

As for the first, they are exactly in the condition of the peasant who, on coming to a stream, thinks it is only swollen by rain, and waits for it to run off.

> Rusticus expectat, dum defluat amnis; at ille
> Labitur et labetur in omne volubilis ævum.

As to the last—the quick change of philosophies—they are not in condition to judge whether what they so call are really different philosophies. The seeming changes of philosophy exist only to the ignorant. Either they do not concern philosophy at all—while there are even now efforts enough calling themselves philosophical which show no traces of philosophy: but if only to distinguish that which calls itself (without being) philosophy from that which is philosophy, investigation is necessary and, because those who are now young must in future investigate, philosophy must be studied. Or, if these changes are metamorphoses having a real relation to philosophy, then they are changes in form. The essence of philosophy is unchangeably the same, and there is a philosophical art impulse, as well as a poetical one.

That changes still take place in philosophy, is a proof that it has not attained its final form and absolute shape. There are higher or lower, more or less complete forms, but every so-called philosophy must have made progress in form. It is evident why the phenomena crowd each other, because the preceding ones sharpen the mind more directly and kindle the impulse. But even if philosophy is presented in its absolute form (and has it not always been as far as possible) no one is forbidden to study it again in its particular forms. Philosophers have this peculiar advantage that, like mathematicians, they are united in their science—all who could be so considered—and that, unlike them, they can yet be original. The other sciences may congratulate themselves when that change of form begins more earnestly in them. To gain the absolute form, the mind must try itself in all; this is the universal law of all free culture.

This conclusion that philosophy is a mere thing of fashion can not be serious. Those who present it would, for that very reason, endure it the more easily. Though not altogether in the fashion, they do not wish to be quite old-fashioned, and when they can seize upon something here and there, be it only a word from the

newer or newest philosophy, they do not despise it, but decorate themselves with it. Were it really but a thing of fashion, as they pretend, and if it were as easy to set up a system of medicine or theology on the newest principles as to change the cut of a dress or hat, then they certainly would not fail to do it. Philosophy, then, must have its own peculiar difficulties.

SIXTH LECTURE—ON THE STUDY OF PHILOSOPHY IN PARTICULAR

If knowing in itself is its own end, then it must be still more true and pre eminently so, of that knowing in which all else is one, and which is the soul and life of it.

Can Philosophy be learned, can it be attained by practice and industry, or is it an inborn capacity, a free gift bestowed by fate? It is evident from what has preceded that philosophy as such cannot be learned. Only a knowledge of its special forms can be gained in this way. But in the study of philosophy that knowledge of forms should also be aimed at, in addition to the cultivation of the capacity to comprehend the absolute which cannot be acquired. When it is said that philosophy cannot be learned, we do not mean that every one possesses it without effort, and that one can philosophize naturally just as one naturally reflects and combines thoughts. Most of those who are critics in philosophy at the present time, even those to whom it occurs to set up new systems, might cure themselves of this conceit by a knowledge of what has been already accomplished. What is now so common would happen less often, that people are converted to errors which they had already laid aside, by more superficial arguments than were believed necessary in the first place, if one would be less often persuaded that with a few formulas of words he could conjure up the spirit and comprehend the great subjects of philosophy.

That side of philosophy which, if not learned, at least can be trained by education, is the art side of this science, or what is generally called dialectic. Without dialectic art there is no scientific philosophy! A proof of it is seen from its very object, which is to represent all in one, and in forms which, belonging originally to reflection, still express archetypal knowing. All dialectic rests upon this relation of speculation to reflection.

But this principle of the antinomy of the absolute and its merely finite forms, as well as the principle that art and production in philosophy are as incapable of separation as form and matter in poetry, proves that dialectic also has a side from which it cannot be learned and that it, no less than that which accrding to the primitive meaning of the word might be called the poetry of philosophy, rests upon the creative capacity.

From the inner essence of the absolute, which is the eternal unity of the general and particular, there is in the phenomenal world an emanation in reason and imagination, which are both one and the same except that the former is in the ideal, the latter in the real. May those whose lot has assigned them nothing but a dry and unfruitful understanding, find compensation in their surprise that imagination should be considered necessary in philosophy. Instead of that which alone can be called imagination, they are only acquainted with the lively association of ideas which makes thinking more difficult, or else with the false imagination, which is a reproduction of sensuous images unregulated by law. Every true imaginative work of art is the solution of the same contradiction which united is presented in the ideas. The merely reflecting understanding seizes only simple succession, and understands the idea as synthesis of opposites, as a contradiction.

The productive capacity may be educated, elevated, and its power increased ad infinitum,and on the other hand its germ may be destroyed, or its development at least retarded. Hence if there can be any direction as to the study of philosophy, it must be rather of a negative kind. The capacity for ideas cannot be created where it does not exist, but one may prevent its being crushed or misled.

The impulse and the desire to investigate the essence of things is so deeply implanted in men that they eagerly grasp after the partial and the false, if it but has the appearance of truth, and offers any hope of leading to this knowledge. Otherwise it would be incomprehensible that the most superficial attempts in philosophy excite the sympathy of the most earnest minds, if these attempts only promise certainty in any direction.

The understanding which non-philosophy calls sound common sense only because it is common, demands in cash the ringing coin of truth, and seeks it without regard to the inefficiency of its means to get at it. In philosophy it creates the monstrosity

of a crude, dogmatic philosophy, which seeks to measure the unconditioned by the conditioned, and to expand the finite into the infinite. The species of inference which in the province of dependent beings reaches from one to the other, is supposed to help him over the gulf from the derivative to the absolute. As a rule it does not lose itself on such heights, but remains at a stand still at what it calls its facts. The most modest philosophy in this direction is that which although it makes experience the only or chief source of real knowledge, yet concedes that ideas perhaps have reality which is wholly lacking to them in our knowledge. One may well say that to study such a philosophy is worse than to know none whatever. The original object of all philosophy is to arrive by means of the facts of consciousness at something which is absolute in itself. To substitute for it this description of facts would never have occurred to any one if true philosophy had not preceded it.

Neither is mere doubt of the common and finite aspect of things, philosophy. It must become a categorical knowing of their nothingness, and this negative knowing must be an equivalent of the positive intuition of the absolute before it becomes genuine scepticism.

What is commonly called logic also belongs entirely to the empirical attempts of philosophy. If this is supposed to be a science of form and at the same time the pure art principle of philosophy, it must necessarily be what we have characterized above by the name of dialectic. But such a science of logic does not yet exist. If it were a pure presentation of the forms of finitude in their relation to the absolute, it must necessarily be scientific scepticism, and Kant's transcendental logic cannot be so considered. But if we understand by logic a purely formal science, opposed to the content or material of knowing, then it would be one of the sciences directly in opposition to philosophy, because the latter rests upon the absolute unity of form and content, or presents, in so far as it abstracts matter in the empirical sense as the concrete, the absolute reality which is also at the same time absolute ideality. Hence that is an altogether empirical doctrine which sets up the laws of the common understanding as absolute, for example, that of two contradictory ideas one only may belong to the same thing, which is perfectly true in the finite sphere, but is not true in speculation which has its beginning in the identification of opposites. In the same way it sets

up laws for the modes of the use of the understanding, as judging, classifying, and inferring. But how? Quite empirically, without proving their necessity, and therefore refers them to experience, for instance that it is an absurdity to infer with four ideas, or in one division to have opposing members which have nothing in common in another connection.

But even suppose that logic undertook to prove these laws on speculative grounds as necessary for this reflected cognition, then it would no longer be an absolute science, but a special power in the general system of rational science. The so-called critique of Pure Reason is founded wholly on the presupposed absoluteness of logic, which recognizes reason only as subordinate to the understanding. Reason is explained in this critique as the faculty of inference, while it is on the contrary a mode of absolute knowledge, just as the knowledge through the syllogism is throughout a conditioned one. If there were no other cognition of the absolute except by means of the conclusions of the reason, and no other reason except that in the form of the understanding, then, as Kant teaches, we should certainly have to resign all immediate and categorical knowledge of the unconditioned and supersensuous.

Such a misconception as Kant's is not caused by the fact that the natural barrenness of logic was aided by preliminary anthropological and psychological knowledge, which presupposes a healthy appreciation of the value of the former—as all who place philosophy in logic have an inborn inclination for psychology.

What is to be thought of this so-called science in itself is evident from the preceding. It rests upon a supposed duality of soul and body, and the result of any further investigation into what does not exist, that is of a soul in contradiction to body, may easily be judged. All true science of man can be sought only in the essential and absolute unity of soul and body, that is in the idea of man, consequently not by any means in the real, empirical man, who is but a relative phenomenon of the ideal.

Psychology ought really to be a matter belonging to physics, which on its side and on the same grounds observes only the mere body, and assumes that matter and nature are dead. The true science of nature cannot arise out of this separation, but only from the identity of soul and body of all things. No real antithesis is conceivable between physics and psychology. But assuming there was such an antithesis, we could no more easily un-

derstand how either psychology or physics in the same antithesis could be put in the place of philosophy.

Since psychology does not recognize the soul in the idea, but only in its mode of manifestation, and only in contrast to that whereby it is one in the idea, it has the necessary tendency to subordinate everything in man to a causal connection, to concede nothing coming immediately out of the absolute or essence, and thus to degrade everything that is lofty and uncommon. The great deeds of past time under the psychological knife appear as the natural result of several easily comprehensible motives. The ideas of philosophy are explained from several very coarse psychological illusions. The works of the great masters of antiquity appear to be the natural play of particular forces of character, and if, for example, Shakespeare is a great poet, it is on account of his superior knowledge of the human heart, and his exceedingly refined psychology. A principal result of this theory is the general levelling system of powers. Why should there be any such thing as imagination, genius, &c.? At bottom all are alike, and that which is designated by those words is but the preponderance of one power of the soul over another, an abnormality in contrast to which, in reasonable, ordinary, sober men, everyteing is in equilibrium, and hence in perfect health.

An empirical philosophy resting on mere facts, and a formal, merely analytic philosophy, cannot constitute knowledge, a one-sided philosophy cannot lead to absolute knowing, since it establishes for all objects of knowing but one limited point of view.

The possibility of a philosophy, speculative indeed, but limited, is found in the fact that while all returns into all and the same identity repeats itself in different forms at all possible stages, this identity may be taken at a subordinate point of reflection, and in the special form in which it there appears, be made the principle of an absolute science. The philosophy which proceeds from such a principle is speculative, because it needs only the abstraction of the limitation of the point of view, and the thinking of the particular identity in its absoluteness in order to lift itself up to the pure and simply universal; it is one-sided in so far as it does not do this and, in accordance with this point of view, projects a false and distorted image of the whole.

The modern world is in general the world of contrasts, and if in the old world, in spite of single movements, on the whole the

finite and infinite lay in one common sheath, the spirit of modern times first burst this covering, and showed the one in absolute opposition to the other. From the indefinitely larger orbit which fate has ascribed to the modern world, we overlook so small a past, that the contrast may easily seem to be the essential thing, and the unity in which it is destined to resolve itself only the special phenomena of a time. Nevertheless, it is certain that this higher unity which the idea re-called from infinite flight, as it were, will represent with the finite, has the same relation to the—in a certain measure—unconscious identity before separation in the old world that a work of art has to an organic work of nature. Be this as it may, it is evident that in the modern world mediating phenomena are necessary in which the pure antithesis appears, it is necessary that it should return in science as in art in the most various forms before it has transfigured itself to true absolute identity.

Dualism, as a phenomenon of the modern world, not only necessary from its nature but also necessary in its return, must have the preponderance throughout on its side as the identity manifest in single individuals can be counted for almost nothing, since these are rejected and proscribed by their time, they are looked upon by posterity only as remarkable examples of error.

Because in the condition of things in which the objectivities of State Constitutions, and even of the general religious associations disappeared, the divine principle of the world withdrew, nothing could remain in the externality of nature but the pure body of the finite devoid of spirit; the light had turned itself inward and the opposition of subjectivity and objectivity had to attain its highest point. If we except Spinoza, there is from Descartes, who expressed the duality with scientific precision, to the present time, no contradictory phenomenon; for Leibnitz also uttered his theory in a form capable of re-assuming dualism. By this sundering of the idea, the infinite also lost its importance, and that which had it was like that antithesis, a merely subjective one. To assert this subjectivity completely, to the entire negation of the reality of the absolute, was the first step which could be made to the restoration of philosophy, and was really made in the so-called critical philosophy. The idealism of the "Science of Knowledge" (Fichte) afterwards completed this tendency of philosophy,and this dualism has since remained unreconciled. But the infinite or absolute in the sense of dogmatism is more definite, and

has been abolished with every root of reality which it had. As an *in-itself*, it must necessarily be an absolute-objective altogether outside of the ego. This is unthinkable, because this positing outside of the ego is again a positing for the ego, and is, consequently, in the ego. This is the everlasting, insoluble circle of reflection which is presented most completely by the "Science of Knowledge." The idea of the absolute is in subjectivity, which it necessarily had by virtue of the tendency of later philosophy, and from which it was apparently displaced by a self-deceptive dogmatism, and thereby re-instated in that it is recognized as a reality existing only in and for action; consequently idealism in this form must be seen as completely expressed, and as the philosophy of modern times arrived at self-consciousness.

Descartes, who gave the first direction toward subjectivity by his *cogito ergo sum*, and whose introduction to philosophy (in his meditations) is, in fact, quite in harmony with its later verification in idealism, could not present these tendencies as entirely separated; subjectivity and objectivity could not manifest themselves as entirely separated. But he declared his real view, his true idea of God, the world and soul, in his physics, more unmistakably than in his philosophy, where it was possible still to misunderstand him on account of his depending on the ontological proof of the reality of God, this remnant of genuine philosophy. It must appear very remarkable that the mechanical physics of the modern world first took the form of a system in the same mind which deveioped dualism in philosophy. In the comprehensive mind of Descartes the annihilation of nature which idealism boasts in the above instanced form, was as true and actual as it was real in his physics. It cannot make the least difference in speculation whether nature is real in its empirical shape, in a real or ideal sense. It is perfectly indifferent whether the particular real things are real in the way in which a coarse empiricism conceives them, or whether as affections and determinations of every ego, as the absolute substance they really inhere it.

The true annihilation of nature is to reduce it to a whole of absolute qualities, limitations and affections, which can at the same time be considered as ideal atoms. For the rest, no proof is needed to show that a philosophy which leaves behind any contradiction and has not truly presented the absolute harmony, has not penetrated to absolute knowing, and is still less able to educate to it.

The problem which each must propose to himself, immediately, as he reaches philosophy, is, To trace out the one true, absolute knowledge of the absolute to its totality, and to the perfect comprehension of all in one. Philosophy opens, in the absolute and the removal of all contradictions, whereby this itself is again transformed into a limitation in a subjective or objective way, not only the realm of ideas but the true primitive source of all knowledge of nature, which is the only workshop of ideas.

I have shown the final determination of the modern world in the preceding to be the representation of a higher, all comprehensive unity, which is as valid for science as for art, and in order that it may exist, all antithesis must be dissolved.

Until now we have spoken of the inner antithesis in philosophy self. I shall be obliged to mention several external ones which have been caused by one-sidedness, false tendency of the time and imperfect ideas.

THE TRUE AND THE FALSE IN DARWINISM.

[A Critical Representation of the Theory of Organic Development. By EDWARD VON HARTMANN. Berlin: 1875].

Translated from the German by H. J. D'ARCY.

I. DARWINISM IN THE PRESENT.

Darwinism, undoubtedly, occupies a prominent place among the objects of present interest to the human mind, The principal works of Darwin and of Haeckel have gone through several editions, numberless popular productions are actively engaged in extending the new doctrine; and the scientific and popular discussions of the question in books and journals fill an almost inconceivable space. On the whole, there is observable a rapid advance, during the last eight years, of this method of looking at questions, though it at first had encountered universal distrust; and perhaps nothing has contributed so much to this advance as the zeal with which the theologians of all creeds, and the professors of the established philosophy hastened to oppose it. This

opposition, which was based upon most insufficient and unscientific grounds, called forth advocates all the more spirited, the boldest of whom deduced consequences which Darwin had but cautiously hinted at, or designedly suppressed. By reason of this the opposition became, naturally, still more inflamed. Materialism, at the same time, did not fail to utilize Darwinism for its own purpose; and David Strauss showed by the manner in which he incorporated it with the confession of his new faith, how influential this new way of regarding things had become, even in circles which one would have thought protected from materialistic thoughtlessness, by their philosophic training.

Even among natural philosophers the feeling irresistibly gained ground that the new theories could not be successfully opposed from the old standpoint, and that the new standpoint must in some way be adopted. Those of the learned, however, who, by reason of their advanced age, no longer possessed a mind capable of unlearning, set themselves unreservedly against the Darwinian tenets. The impartial thinkers who sought to separate the true from the false in the new doctrine, were extremely few, and their voices were lost in the din created by enthusiastic disciples and embittered opponents. Surely the power to call forth both may serve as evidence that in a given theory are mixed the relatively true and the relatively false; that significant, fruitful, and fascinating ideas are to be found side by side with those that are incomplete, and to that extent inaccurate.

The task of the philosopher consists in recognizing one-sidedness as such, and in eliminating the errors which spring from regarding one side as the whole, a partial justification as a full one, and from overvaluing an explanatory principle, valid within certain limits, when applied beyond these limits. This task I have already sought to perform with regard to Darwinism, in the first edition of my "Philosophy of the Unconscious," which appeared in the end of 1868. Therein I represented the theory of descent as the one undoubtedly correct, and as the part of Darwinism calculated to be the rallying point in the struggle. I even incorporated it as a part of my system, while I pointed out that the theories of natural and sexual selection were principles overprized, and of limited applicability. (First Ed., pp. 493–494, 497, 503, 223–225; sixth edition, pp. 596, 602–610, 248–250). The most important objection made by me, one borrowed from the botanist Naegeli, was that natural selection could not affect morphologi-

cal structure relations, but merely the adaptability of organs to certain physiological functions, while the distinction between species the origin of which Darwin undertook to explain by his theory of selection, is essentially of a morphological nature; and all advance to a higher grade of organization depends upon a morphological change. Darwin has, however, since then, found himself obliged to recognize the validity of this objection, and to admit that he had attributed too much to the influence of natural selection, as this can only extend to what may be physiologically useful, and not to the countless morphological features which have no bearing upon physiological functions. ("Descent of Man," German by Carus, second edition.) He has also acknowledged this "very great mistake" in the revision of the fifth English edition of his principal work (cf. the fifth German edition, pp. 237–239); yet he has failed to draw from this the conclusion that the very title of this work, "The Origin of Species by Natural Selection," is inaccurate; for the morphological features, which from a physiological point of view are of no significance, are the most important and decisive as to the type of a species; therefore one cannot consistently speak of an explanation of the origin of species, by a principle which does not explain what most needs explanation. This obvious consequence Darwin has evaded by increased emphasis on ancillary principles, which, however, as we shall see, lead to a view fundamentally opposed to that from which the principle of selection sprang.

Thus much, at least, is evident from what has preceded, that the hypotheses, principles and theories collected under the name of Darwinism are in pressing need of an analytical examination, if the confusion which reigns in this domain is not to involve forever the highly important problems which are here treated of, in a mist impenetrable to the ordinary understanding of the so-called cultivated public. It is high time that people should cease to regard Darwinism as a complete whole, and to use the conclusive evidence of the descent theory in behalf of a cluster of theories which are related only in the common tendency to put the sum of external, accidental and mechanical influences, in the place of an internal, systematic and organic development. The theory of descent, as such, is quite consistent with either a mechanical or an organic development of the world, with either a materialistic, pantheistic or theistic one; and this fact would serve as an additional and weighty recommendation of it to the unprejudiced

consideration of all classes, if it did not present itself wrapped up in Darwinism with the principle of selection. It is only against the mechanical way of looking at the world, involved in the principle of selection, when this latter is regarded as alone a sufficient explanation, that all the attacks upon Darwinism are directed. And these only affect the theory of descent, as brilliantly re-introduced by Darwin, because the opponents of the Darwinians believe, without criticism, in the indissoluble unity of both theories. On the other hand, many are induced by the obvious truth of the theory of descent, to adopt the theory of selection and its mechanical views into the bargain, because they cannot separate these different elements of Darwinism. The impassioned defenders of Darwinism also struggle against the necessary separation, because they seek the chief power of the theory of nature maintained by them, in its presenting a perfect whole in which no gaping clefts are to be found, and at least not such as offer a prospect of ever being filled up except by metaphysics.

In order, then, to be able to offer an apparent whole, which also corresponds with the present superficial tendency toward the mechanical, they seek to make good the pretension, long ago shown to be unfounded, that the theory of selection, in connection with auxiliary mechanical principles, is in a position to fully explain the process of development by organic nature which we see around us. In this they disregard that hitherto approved modesty in the natural sciences which consists in a limitation of the efforts to explain, to that which is actually explicable by the means derived from natural science; and imitate in this disregard the philosophy so often blamed by the students of nature for the transgression of its limits, without even bringing to their undertaking a true philosophical standpoint. In truth, however, the questions which are at bottom involved, belong not to science but to philosophy; it therefore seems that philosophy, as such, not only has a right but is under an obligation to take part in their discussion. To this may be added that the result of this dispute is of the highest practical importance. For the antagonism of the old systems of natural philosophy culminated in the question as to the origin and development of the organic kingdom on earth, some regarding this development in a mechanical and materialistic way, others in an organic and ideal; and as the decision will be in favor of the one or the other view, so will be

for the near future the triumph of materialism or idealism; and it is obvious that the triumph of either will, for some time at least, lead civilized people, in their solidaric union, in a direction quite different from that in which they would be lead by the triumph of the other.

Therefore the more important the consequences that flow from the solution of the problems taken up by Darwinism, and the more general the recognition which the theory of descent has in late years won for itself in other quarters, the more pressing is the necessity to separate it from the other elements of Darwinism which are of more doubtful worth. It is therefore a matter of congratulation that the botanist, Prof. Wigand of Marburg, has undertaken the task of analytically examining and critically testing Darwinism in all directions, with German industry, German thoroughness, and, of course, also with German timidity. This work goes, in several respects, beyond the mark, and thereby exposes many weak places to its opponents; it clings fast to the constancy of species, in my opinion, a lost cause; it underrates the influence of the struggle for existence, and of sexual selection, perhaps to the same extent as Darwin overrates it; and finally it brings into an examination of the science of nature theistic doctrines, which would be entirely foreign thereto, even if they were maintained in a much more philosophic manner than is here the case; and it omits a philosophic examination, undoubtedly pertinent, as to the existence of the internal law of development, which it justly raises to the rank of an universal principle of organic nature. However, it is the first work, as far as I know, in the German language, which represented and criticized Darwinism in its whole extent, with full knowledge of details and great logical acuteness, and subjected to thorough critical treatment every principle of Darwinism which, not involved in the theory of descent or the theory of development, could serve to establish a purely mechanical view of organic nature. I believe that, in this sense, I may characterize it as the monument which marks the limits, beyond which the influence of Darwinism in Germany has not extended.

When Wigand's critical depreciation of Darwinism is reduced to its proper measure, by an impartial course of objective testing, and the untenable hypotheses introduced by him are eliminated, it will be seen that the golden mean between Darwinism and its latest opponent agrees substantially with the position

taken by me in the "Phil. d. Unb."* Cap. C. X.; and the readers who may take the trouble to compare the contents of that chapter with the succeeding observations, will be convinced that all the more important arguments for the permanently valuable, and against the untenable or greatly over-estimated principles of Darwinism are to be found in the first edition of my "Phil. d. Unb." As, however, the arguments are there rather briefly hinted at, and their systematic connection slight; and as Darwinism has now become quite the fashion, I think the following essay opportune. It is fuller and more complete than what I have before written on the subject, though it is condensed as much as possible, and omits the consideration of all questions of mere detail. Its object is to enable the public, by an orderly presentation of the materials necessary therefor, to form their own opinion as to the significance of Darwinism; and especially to separate, in a manner intelligible to the unlearned, the group of theories and principles contained in Darwinism; and finally to indicate, by philosophical arguments, the proper standpoint for one desirous to comprehend the subject.

II. THE IDEAL AND THE GENEALOGICAL RELATIONSHIP OF TYPES.

The sciences which have organic nature for their subject have one common characteristic, which, in one way or another affects each of them. This characteristic is that all types of the animal and of the vegetable kingdoms possess a certain likeness or relationship between themselves; and that they, when arranged according to the degrees of their relationship, form a connected system which, precisely because it is not imposed upon concrete phenomena, in an artificial or violent manner, but takes its origin from them, is called a natural system. Botany and zoology, for instance, have always sought to derive this natural system from natural phenomena, and to perfect it, even in the smallest details, in a manner true to nature, that is, to fully recognize the relationship of organic types in their relative nearness or distance.

**Philosophie des Unbewusstseyns* (on the Philosophy of the Unconscious).

Even before any thought of the theory of descent, there was nothing to prevent the representation of the relationship of types in the form of a stem and its branches, and it was but natural that the system formed from the fauna and flora of the present should present many gaps in the continuity of this relationship, which can be filled with extinct species, sometimes in a truly surprising way. Palæontology served in this way to complete, as well as, by the discovery of primitive types for existing species, to enrich the natural system, without in any case transcending its limits. While the relationship of existing species arranges itself in space, and that established by palæontology in both space and time, it would yet be entirely premature, in the latter case, to argue from a post hoc to a propter hoc, from a temporal to a causal sequence. Even the discovery that the development of animals in embryo (it is not the case with plants) passes through a morphological gradation, which corresponds with the essential features of the natural system, can, of itself, by no means force us to abandon the conception of the natural system as one of purely ideal relationship; and to assume a real genealogical connection; all the less, as the analogy of the transitions in the development of the embryo with the higher transitions of the natural system, is to be regarded "cum grano salis," since it not only presents great breaks, but the conditions of the development of embryonic and of independent life are so different that they exclude all substantial agreement. Palæontology has taught us that the kingdom of organic nature, regarded as a whole, has developed itself from simple beginnings, by gradual extension; while, from time to time, higher types appeared and were added to the sum of those already existing; the assumption, however, of a repetition of the macrocosmical development in the microcosmical embryo of the individual, would seem to be, in no way, demanded by our conception of an ideally systematic relationship of types, until from some other quarter more cogent reasons could be adduced for so doing. This conception of relationship as purely ideal is greatly strengthened by two important considerations: first, that of the obviously ideal character of the relationship of types in the mineral kingdom and of human products; and secondly, that of the interlacing of the branches of the tree representing the natural system, that is, of the many-sidedness of the relations in each type.

The analogy of the mineral kingdom, seems from the fact that

it is usually co-ordinated, as a third, with the animal and vegetable kingdoms, of more weight than by reason of the essential difference between organic and inorganic nature, it really is, a difference, indeed, which the mechanical way of looking at the word, involved in Darwinism, tends to remove. In the mineral kingdom, also, we have to do with types, in forms of crystalization, even in what would seem to be amorphous, which just as well as the organic, can be arranged in a natural system, according to the degrees of their relationship; and yet it will occur to no one to conceive, in this instance, a genealogical development of the more complicated types from the simpler.

(To be continued).

POSSIBILITY AND NECESSITY OF APPLYING MATHEMATICS IN PSYCHOLOGY.

Translated from the German of J. F. Herbart, by H. HAANEL.

[Herbart's essay on the "Possibility, &c., &c.," consists of a paper read before a scientific body, and a preface and notes which were added afterwards. The notes are longer than the paper itself, and the preface partly polemic. The allusion, at the end of the essay, to natural philosophy, is too brief to be satisfactory.

Whatever else may be thought of the essay, it is the best introduction to the mathematical part of his psychology written by Herbart, and it has, in my mind this peculiar merit, that if we take the contradictory opposite of every one of his positions, we get a pretty clear idea of the relation between Algebra and Hegel's method, and this is to be expected, because Herbart's metaphysics furnish the most exhaustive indirect argument against the supremacy of the principle of identity and in favor of the dialectic method, if used in the same manner.—TRANS.].

To the most matured and most earnest faith that this very undertaking, to which I have devoted not only the following essay, but my very best efforts for years, is to be classed among the most necessary and most urgent enterprises that ever can be proposed to the scientific world, there is joined the consciousness—and it is sometimes quite disheartening—that I must esteem myself happy, if I but succeed in commencing a work, the fruitful development of which has necessarily to be left to others.—[From the preface].

Socrates has received praise from all centuries because he recalled philosophy from heaven to earth and to man; if he could rise from the dead, and, acquainted with the present state of our sciences, should look once more to the heavens for the purpose of appropriating there something that might be beneficial to men, he would behold much less of modern philosophy than of mathematics, and see the efforts of that science crowned with the most brilliant success. I then imagine him to ask: "Tell me, ye exceedingly wise men, what is better, soul or matter? What is more important for you to know, the inclination of the axis of the earth or the causes of the vibration of your opinions and dispositions? What is more necessary for you to know, the stability of the solar system or the means by which your principles and customs may strike firm root? From what are you more likely to suffer, from the perturbation of the planets, or from the revolution of your States? And if mathematics are of such excellent help in your investigations, why do you not endeavor to use them for the solution of problems the most important and the most necessary? Or, if mathematics are of such authority among you that you are inclined to rely upon them in preference to every other science, why are they condemned to be employed on one hand for objects so distant as hardly to invite the curiosity of a few learned men, and on the other, for objects so closely related to the lowest wants of the body that their constant use has a degrading tendency?" Would it be satisfactory to reply to such questions that mathematics served in arsenals and before the walls of beleaguered cities also? that they taught us not only how to increase but how to destroy human industry? We would hardly like to expose ourselves in such a manner to sarcastic remarks of the philosopher. Who could succeed, however, to anticipate the net of questions with which he might capture and deliver us from inveterate habits of thought? I, for one, do not care to try it, especially as something else concerns me more directly than the manner in which Socrates might express his astonishment as to the limited use we make of mathematics. For I am aware that my attempt to apply mathematics in psychological investigations has been a matter of amazement to some cotemporaries, and that such amazement has been reproduced quite lately by the publication of a treatise concerning a measure for, and the most general conditions of attention. But the smaller the number of men who read a treatise solving a complicated dif-

ferential equation, the greater is the probability that such amazement will be the end of the matter, and that they will take no further interest in the subject. I am, therefore, determined to furnish a brief report of my undertaking in other language than in algebraical signs, for once—an undertaking dating as far back as the last months of the eighteenth century—the germ of which I found, even before that time, in the school of Fichte—with which I have busied myself ever since, and without losing sight of it at any time, though interrupted often and for long periods, and from which I now intend not to desist until my preparatory labors are advanced far enough to be taken up by mathematicians of greater skill than I possess myself. Before reporting, I shall mention the plausible counter-arguments to which said astonishment is referable, and having answered them, I hope to find a favorable hearing for my demonstration, that it is possible snd necessary to use mathematics in psychology.

The first of the plausible reasonings which oppose me is really nothing but force of habit, and, as far as the form of its presentation is concerned, leans upon an assertion entirely untrue. People never heard that mathematics have been applied to anything but objects which either are or may be located in space, e. g., to forces increasing or decreasing according to certain distances, and the effects of which may be measured and accurately observed. It is not comprehensible what measure a man could find to determine and compare the quantity of acts of the mind, and of the changes of perceptions, emotions and desires. Our thoughts are quicker than lightning, how could it be possible to observe and delineate their course? Man's inclinations are as unstable as the wind, his dispositions as uncertain as the weather; who could, as to them, perceive quantities that might be brought within a law of mathematical regularity? But where we cannot measure, there we cannot count; hence it is impossible to use mathematics in psychology.

Such is the syllogism compounded of the fetters of habit and of an assertion evidently untrue. For, to commence with the last, it is palpably untrue that we can count and reckon only where we could measure. Quite the reverse! Any and every law of quantitative ratios, either hypothetically assumed or even known to be false, admits of the substitution of numbers, and we have necessarily to try hypothetical explanations of recondite but important matters, and we have, by careful calcula-

tions, to ascertain what consequences would result therefrom, before we can find which of the different hypothetical laws agrees with experience. The older astronomers tried eccentric circles. Kepler tried the ellipsis to rhyme with it the motions of the planets; he then had to compare first the squares of their annual motions with the cubes of their mean distances, before he could find that their relation was identical with regard to all. Newton had, in like manner, to try whether a force of gravitation inversely as the square of the distance would be sufficient to keep the moon in its course around the earth; and if this supposition had not been satisfactory he would have tried another power, say the cube or fourth or fifth power, and computed the results and compared them with the data of observation. This indeed is the very great benefit of a mathematical hypothesis, that we may survey the possibilities within the limits of which the facts must be found, long before we are in possession of sufficiently definite experience, and that we are thus enabled to seize upon very imperfect hints to get rid of, at least, the grosser mistakes. Long before a transit of Venus could serve for ascertaining the parallax of the sun, a trial was made to find the distance between sun and earth by means of the enlightened hemisphere of the moon. It was impossible, for all our observations of time are much too rough from psychological reasons to apprehend accurately the exact moment; nevertheless, this trial produced the knowledge that the distance of the sun must be several times that of the moon. This example illustrates that a very imperfect estimate of magnitudes, where no accurate observation is possible, may be very instructive if properly used. And was it necessary to have a measure for our solar system before its general arrangement could be known? Or, (to take an example from another field of thought) was it impossible to investigate the laws of motion, before it was settled with precision how many feet a body falls in a second at a given point of the surface of the earth? Such investigations as to the last units of measure are very difficult indeed, but, fortunately, they form separate problems, for the solution of which our knowledge of the fundamental laws need not wait. It is true that measuring invites calculation, and that every regularity of phenomena, especially if it can be observed without difficulty, is a stimulus for mathematical research. Inversely, the less that symmetry occurs in the facts, the longer is scientific inquiry delayed. If the celestial

bodies moved in more resisting media, and if their masses were not so very small compared with their distances, astronomy would, perhaps, be no farther advanced than psychology is today, and could not even hope to regain from the number of observations what is wanting in accuracy.

It is alleged, as a second objection, that mathematics treat only of quantities, whereas actions and states of greatly different qualities are the subject of psychology.

In order to refute this argument scientifically, I should proceed to show from metaphysics that the real, true and original qualities of simple elements are completely concealed from us, and that they, therefore, cannot be the object of any investigation whatsoever; moreover, that where we believe that we apprehend a difference of qualities in common experience, the cause thereof is very often a difference of quantities merely, as, e.g., when we believe that we hear the qualitative difference of sounds and of their great number of harmonies and disharmonies, while in fact strings of different length are vibrating faster or slower. But I shall not dive quite to the bottom of the question at this time. I do not care to prove in this place, the proposition that no variety of original faculties is co-existing in the soul: the prejudice of a multiplicity of different qualities inhering in the same identical substance may pass unmolested, though it belongs to the first conditions of true knowledge to be free from that. It may be sufficient to assert that however great the number of fictitious qualities which a man may distinguish in his soul, he certainly cannot deny that over and above them there is an infinite variety of quantities determining mental action. Our thoughts are stronger or weaker, more or less clear; their coming and going is faster or slower; their number at every moment greater or smaller, our susceptibility for perceptions, our excitability for emotions and passions is variable to a greater or less extent. These and innumerable other differences of quantity which obviously occur in mental states, have been reckoned among the less essential modifications, but unjustly, and this is the true reason why the lawful consistency of mental phenomena has not been discovered. I can illustrate only quite briefly by a single example that those modifications supposed to be unessential are in truth all-important. Everybody knows what sleep is, and that it consists in a suppression of our perceptions which is perfect in deep sleep, imperfect during dreams. But very few are mindful

of the fact that but an extremely small portion of our thoughts are present to our mind at any time, even during the moments of most attentive wakefulness, that all the rest influence us as little as they do in sleep, or, to speak more definitely, that most of our thoughts are latent, and but few are free at any time.

Let us now cast a glance at physics and at the theory of free and latent caloric. What was that science before the important distinction was duly considered? Precisely in such a state is psychology to-day. All mental states and products depend first of all upon the fundamental condition that some or other perceptions are awake, for sleep, whether total or partial, suppresses everything within its reach, or, in other words, those perceptions which by the law of their equilibrium are latent have, for the time being, no influence whatever upon what is going on in our consciousness. It is different with regard to perceptions which are in such a state of supposition according to the laws of their motion; the latter operate quite strongly upon our dispositions, passions and emotions; it is impossible, however, here to develop the distinction between statics and mechanics of the mind.

Other objections are based upon popular opinions concerning the so-called higher faculties of the soul; and I know full well, I have had but too long an experience, that I here offend most potent prejudices, prejudices quite insuperable for the simple reason that men do not wish to lay them aside, that they violently refuse to reflect upon what is contradictory to them. These prejudices are concentrated in the words: genius and freedom. What is genius? Let me answer by a comparison, for the sake of brevity: genius is a planet. Neither of them follows the straight road, their course is that of a curve. They sometimes appear to be stationary, sometimes to move in a retrograde direction, at first slow then fast, then slow again; all at once they rush forward, dive into the glory of the sun, and in its company perambulate the heavens, yet again for a short time only, after which they prefer to scintillate in darkest night and flash the more brilliantly, the greater their opposition is to the star of the day. I confess that these words fit a planet better than genius, but the similarity will be apparent enough. The course of planets is determined by calendars, since calendars obey the planets. Genius would, in like manner, be governed by psychology, if there was as much true science at the bottom of it as there is in calendars.

So much about genius, who cannot refuse to follow a law, though he may be unaware of the same; for the ignorance thereof is no proof of its non-existence.

But what shall I say about freedom? First of all, that I am almost tired of speaking of it. I have often and long ago explained the causes of confusion and error as to this point, and presented my explanations in all manner of forms; I have dissected the original judgments, from which the ethical imperative is derived, and have defined each one of them separately; I have proven that these judgments which lay down the distinction between what is worthy of praise or blame, between what is good or bad must necessarily be involuntary and opposite in their nature to the nature of the will, because the least confusion of their difference tends to bias the judgment and to vitiate moral purity. From the moment that these principles became clear to my mind, the mist of the supposed incomprehensibility of the freedom of the will was scattered, the sublimity and holiness, connected with that name, was transferred somewhere else, and what now remains of freedom, to-wit, the capability of doing evil, the source of vulgarity and vice cannot be controlled more effectually than by tearing from it the deluding mask of the name of liberty, and recognizing in the same a parasitic growth which, like moles and warts, increases and decreases by laws of psychological necessity, and which, under definite conditions, may be destroyed or prevented. What I here say agrees in certain points with the pious sentiments which warn man not to seek the origin, much less the law of evil and good in his own self, i. e., in his will, and is perfectly consistent with the idea of responsibility by which the act is considered as the effect of the will, the will as the effect of the moral character, but which decides nothing as to the cause of the character, and ignores this cause.

All these difficulties connected with the idea of freedom would soon vanish, if men did not entertain the strangest notions with reference to the will which is left, after the transcendental liberty is taken away. To him who says, I cannot conceive of a will which, as such, is not free, we can only say, keep your freedom, for it certainly exists in the sense in which you take the word. The life of the human soul in the mind is no puppet show, no showman stands behind to pull the wires, but our innermost life is identical with our will, and this life has its rule

within itself, and does not receive it from outside; nevertheless, this rule is fixed and certain, and it has, on account of this fixed certainty, more resemblance with something otherwise altogether heterogeneous, to-wit, with the laws of pressure and resistance, than it has with the miracles of a liberty which is said to be incomprehensible.

We now proceed to the proof that mathematics can be applied in psychology, and have to distinguish, for that purpose, as to the matter to which, and as to the form in which they may be applied. The possibility in question depends partly on the quantities offered to the psychologist, partly upon the methods used in the investigation. It seems to be more convenient to set aside the quantities, at present, and to point out the manner of procedure. For I fear lest my aim will recall former failures, and recent frivolous attempts to imitate mathematics in philosophy, or to play with algebraical signs without knowledge or purpose, a use of mathematics which is certainly very different from the one I have proposed. The root of those other absurdities is to be found in the ignorance as to the true nature of metaphysical problems which mathematics are utterly incapable of solving, and which—in order to avoid trouble and perplexity—have always been evaded with great skill by that science. He who feels at home in metaphysics, may find opportunities to improve points intentionally skipped in mathematics or left unfinished, as the theory of parallels, of the infinite, the irrational, and everything connected with the idea of continuity. Quite different means, abilities and efforts, must be joined for metaphysical problems, and new skill must be acquired in new methods, so that we are very far from being able to use mathematics as a pattern there.

Mathematics are indeed impotent outside of the region of quantities, but the art with which these are brought into subjection wherever they are met, is truly admirable. Let us remember the nets which that science has woven around the heavens and the earth, those systems of lines relating to azimuth and altitude, to declination and right-ascension, to longitude and latitude; those abscissas and ordinates, tangents and normals; those trigonometrical and logarithmical functions which are all ready and waiting to be used. Surveying this apparatus, we comprehend that mathematicians do not owe their success to some supernatural influence but to a very natural cause; we seem to see a vast variety of

the most ingenious machines bearing witness to a very extensive and very lively industry, and which are well fitted to produce true and imperishable riches. And of what does this apparatus consist? Does it consist of real objects? Let us call to mind examples! What is the celestial globe? Is it a real, massive sphere, upon which we may draw spherical triangles? It is a useful fiction, an instrument of thought, a convenient form for the totality of all optical lines which may be produced to the stars, and which are considered with reference to direction merely, and without reference to length. What is the centre of gravity? Is it a real point in a body? What the centre and the axes of revolution? Why do mathematics treat of a mathematical lever which has no reality? Why do mechanics treat of the motion of points, of simple pendulums, of the fall of projected bodies in vacuo? Why not directly of the material lever, of matter in motion, of the path of the projectile in the atmosphere? In a word, why does that science use so many fictitious, auxiliary quantities, why does it not directly compute what is found and what occurs in the real world? The answer is contained in the question: those fictions are real helps, those abstract quantities are means to analyze, or limits between which the quantities of observation must be included to approximate the latter with greater and greater accuracy. It is true, psychology cannot directly imitate mathematics, but the latter carries the peculiar procedure described wherever they are used. We may, therefore, conclude that if mental states and actions really depend on quantities, the computation of the latter will likewise only be accomplished by reducing them to more simple, more convenient quantities between which the observations have to be included, or with which they have to be connected for the purpose of approaching their quantitative relation as closely as possible. For this reason it must be expected that we can deduce scientifically a very simple and very general type of volitions merely, and of certain chief classes of emotions and imaginations and the like; the individual reality is very sure to escape mathematical determination and limitation. Nothing could be more ridiculous than the fear that, by some sorcery of numbers and letters, we might be robbed of our secrets, or tracked into the recesses of the heart; the shrewdness of the world will, in this regard, always remain much more successful and dangerous than all mathematics and psychology combined.

It is now time to point out more definitely the quantities admitting calculation. We have to begin with what is most simple, and, at first, to set aside all connection of the perceptions among themselves. There are then left only two quantities for our consideration: the intensity of each separate elementary sensation, and the degree of antagonism in each pair. This is already matter enough for calculation and for discovering the primary source of two quite general psychological phenomena, namely, of the fact mentioned above, that by far the most of our perceptions are latent at any definite moment, and secondly, that, as long as psychological causes do not supervene inducing sleep, not all perceptions become latent together, nor all except one, but that something always is present to the mind, during the time of wakefulness, and that that something is never quite simple, but more or less complex. These facts would have been a matter of astonishment and a subject of inquiry, if facts occurring daily and to which we get accustomed were not, to most men, a matter of course.

The calculations occasioned by the intensity of each separate sensation and the degree of antagonism in each pair are very simple; they become however much more complicated when the third quantity is introduced: the degree of union between the sensations. The former results are then changed and others added. Moreover, a fourth quantity now enters: the number of the sensations differently connected. Especially noteworthy are the longer or shorter series of perceptions, connected imperfectly and in such a manner that the second is joined to the third, the third to the fourth and so on, while the first and third, second and fourth, and so on, are connected in a less degree, or not at all. Such series of perceptions are somewhat like filaments or fibres, by means of which richer mental organs are construed, and they have their certain laws of susceptibility and irritability, a better knowledge of which is all-important in psychology. Distant, but very unsatisfactory guesses are contained in what is known by the name of association of ideas; more definite knowledge depends upon calculation and has most important consequences, not only for the theory of memory, imagination and understanding, but also for the analysis of emotions, desires and passions. Nothing shall prevent me from saying publicly, that mathematics discloses, in this region, an almost unlimited ignorance in which psychology has remained hitherto. Seat and ori-

gin, even of the construction of definite forms of space and time, is to be found here, and not in general, original forms or categories of sensation.

New determinations of quantity arise, with regard to series of perceptions previously formed, according as these are stimulated at one or several points, or are more or less in a state of involution or evolution, and are apt to follow, when larger or smaller textures have already been construed from what I called filaments and fibres, from the difference of their construction. This construction must be similar in different men, to a great extent, on account of the common objects of sense, which furnish the occasion for producing and joining perceptions; but it is subject to considerable modifications, depending upon individual organization, and consequent upon surrounding circumstances and habits, which latter may be modeled by education. The last point deserves attention. Humanity is not an endowment of man, but the effect of culture; the savage man is an animal in which humanity may be developed by means of society. The hypothesis that a superior being took care of the first men and educated them, conflicts less with experience than the other, that humanity gradually slipped from the originally higher state to the lower; for geography and anthropology show the barbarous state of isolated tribes, and hence that humanity proper depends upon society. This fact is little valued by psychologists who hold that reason and common sense, reflection and self-observation are original powers of the human soul.

So much, however, is matter of common observation, that not all perceptions are joined equally well, that they are active in very different degrees, and that therefore the same relation must obtain between centres of thought of different intensity, which occurs between new observations and older experience reproduced by the former: hence, that there is not only an apperception of things, but also of perceptions within, a reason which repeats by reflections and conclusions the same process which is transacted when sensations are assimilated by judgment and formed into mental pictures. But what kind of process is it? I believe that I know it, yet I cannot explain it here. I may say, however, that the higher activities of the mind cannot possibly be investigated as to their true sources and laws, as long as those which are lower in the scale, which are similar and upon which the former depend, are not known any better; and, though I

hardly think that mathematical analysis will ever penetrate into these highest regions of reason and will, I hold the same to be indispensable as a basis for the knowledge of those highest objects of thought, lest, if the more delicate modifications of truth remain hidden, we should, as heretofore, fill the gaps of our knowledge with gross errors, and should contract indifference for philosophy when we witness the contention of parties who are equally far from undisputed ground.

This thought forms the transition to the last part of my argument. It is not only possible, but necessary that mathematics should be applied in psychology; the reason for such necessity is, in a word, that the aim and end of all speculation is otherwise absolutely beyond our reach, and that aim and end is: mathematical certainty. This necessity to establish our theories definitely is the more urgent, the greater the danger is that philosophy may soon relapse into the state in which it is already in France and England. It is a manifest blindness of most of the living German philosophers that they do not see this danger. If they knew mathematics, (and I mean a little more than the elements of geometry, or quadratic equations, or the signs of the differential and integral calculus)—if they understood mathematics, they would know that an indefinite talk, interpreted differently by each individual and which only multiplies the disputes, cannot possibly—notwithstanding the beauty of presentation and the sublimity of the subject matter—keep abreast of a science which instructs and elevates by every proposition uttered, and which elicits never-ending admiration—not for the vast spaces it has measured, but for the exhibition of the most stupendous human sagacity. Mathematics is the ruling science of our time; its acquisitions grow daily, though noiselessly. He who does not befriend it, will have it his enemy in the future.

I have now to explain the cause why mathematics not only possesses such certainty but why it transfers the same to the objects to which it is applied. It is true that the primary cause is to be found in the perfect accuracy of its elementary definitions, and every science must look to this condition of stability itself; none can borrow or receive it as a gift from another, psychology no more from mathematics than the latter from the former. But that is not all. As soon as the human mind tries long chains of syllogisms or difficult problems generally, the difference of the great number of parts has a tendency to unsettle

their limits alternately, and not only danger but suspicion of error commences, because we cannot inspect the particulars of the totality at once with equal distinctness, and we have, finally, to rest in the belief that we have not made a mistake at the start. Every one knows that this is true even in the elementary use of mathematics, in arithmetical operations. No one will imagine that we find it any better in the higher branches of mathematics. Quite the reverse; the more complicated the operation, the quicker, in rapid progression, grows uncertainty and suspicion of hidden mistakes. How, then, do mathematics proceed to remedy an evil to which they are subject themselves in the highest degree? Are the arguments filed again and again? Are new rules given how to apply previous rules? Nothing less! Every isolated operation, considered in itself, remains in a state of very great uncertainty. But there are proofs of calculation! Upon the soil of mathematics there are a hundred different ways leading to every point, and if we obtain precisely the same result by taking these hundred different roads, we are satisfied that our result is correct. Calculation without such proof is not better than none at all. Just so it is with regard to every isolated argument in any part of speculative science; it may be ever so clear, it may be perfectly true and correct and yet it does not create permanent faith. He who should hope, either in metaphysics or psychology, to see himself rewarded by perfect certainty of knowledge, nay even by a certainty generally communicable, on account of extreme carefulness bestowed upon the accuracy of definitions and correctness of conclusions, will certainly be sadly disappointed. It is necessary for that purpose that conclusions be established independently of each other, and that they corroborate each other without the least suspicion of a circle, and furthermore, that experience itself confirm the results of speculation, not only in general, but in an infinite number of cases and with reference to all theories which proceed from experience or judge about experience.

Before closing, I have now to call your attention to that one condition without which matters of experience and theories cannot be compared with any degree of accuracy. All experience is modified by quantities, it is liable to the greatest changes of quality, if the conditions of quantity are changed. Shall I illustrate? Shall I remind you of the celebrated question of physicians, what is poison? of a definition so difficult, because excess

of what is most wholesome may become injurious, while a suitable quantity may transform poison into medicine. But why should I detain you with so obvious matters? What I wanted to prove is in broad daylight, to-wit: Every theory, to admit of comparison with experience, must be developed until the same embodies the modifications of quantity which occur in experience or are inseparable from its principles. Before reaching this point theory remains a castle in the air, exposed to every gust of doubt, incapable of co-operating with convictions already established. But all relations of quantity are in the hands of mathematicians, and it may thus be seen at a glance that all speculation which pays no attention to mathematics, which does not try to open communication with them, in order to distinguish the various modifications which take place by a change of quantities, is a play of thought, or, at best, an effort which cannot reach its aim. Many a noble tree grows upon the soil of speculation which is neither planted by mathematics, nor cares for them, and I am very far from declaring it a noxious growth. It may grow, but it cannot bear fruit without mathematics. There is, however, a sort of empirical faith even as to this point which cannot be acquired but by individual practice and use of mathematics. We must have seen with our own eyes, as it were, how calculation draws conclusions from known premises which were altogether unexpected, how it directs attention to conditions, the importance of which did not occur to our mind, how it destroys half-truths which we did not avoid in spite of our most careful cautiousness.

"THE FATES," BY MICHAEL ANGELO.*

I. FATE IN GENERAL.

The "*Sankhya Karika*,"† or memorial verses in which are contained the doctrines of the renowned Kapila (profoundest of East Indian thinkers), begins thus: The [object of all philosophic] inquiry is to discover the means of precluding the three sorts of pain [that is (1) the pain that is caused by the natural wants of the body; (2) the pain that is caused by the struggle of other bodies in nature to satisfy their wants; (3) the pain that is caused by the crossing of individual destiny by divine purposes, or by the grand destiny of the whole]. [He continues] For pain is embarrassment [i. e., complication of one being with another;] nor is this inquiry superfluous by reason of the fact that there exist various artificial means of alleviation from these species of pain; for by such means there is no absolute and final relief accomplished." The Hindoo sage inquired after an absolute and final relief from the torment of life. Torment was inherent in bodily life, and Kapila taught the doctrine that the only relief from it is to be sought in the refuge of the pure intellect. In the timeless and spaceless thinking which gazes upon the True in-and-for-itself the final escape has been made.

In this statement is found the doctrine of Fate as held in the Orient, *Relief from Pain*. If each individual had no need of any other individual in the universe—if each were total and complete in itself there could be no pain—no Fate. There could be no want or desire; for all that should be desired would be already in possession as an intrinsic portion of the individual. There could be no external violence—no invasion of the sacred precincts of one individuality by others; for each would be complete in itself and have no occasion to invade others, and more than this—each would have no external limits but would already contain all in its including totality.

External limitation and pain or Fate are inseparable therefore. And we see at once that Fate pervades the entire realm of matter and of material body. It is the nature of body to exclude others,

---

*Essay read June 8th, before the St. Louis "Society of Useful Knowledge," by W. T. HARRIS.

†J. S. P., Vol. II., p. 225.

to limit others, and yet to depend on others, through the fact that the limit of one body is the beginning of another, and one body is limited by and through another. Hence there can be no true individuality on the part of a material body; it must be a part or portion of a larger mass or collection of bodies. All individuality in Nature is only apparent and an illusion. This diamond seems to be itself alone; but when I investigate its existence, I find external conditions which enthrall it. I find that wherever I place it, it is heavy, or is attracted to the centre of the earth. It is as if it were *tied* to the earth by the rope of attraction. But the earth is only a proximate post; the earth is tied to the sun by the same rope of attraction, and the sun is tied to every star by the same tether. And the diamond is also held in its present shape by certain external conditions of temperature. Substitute these for others (place it in the flame of the oxyhydrogen blowpipe, for example) and its particles will fly as under in a flame. It is the nature of body to be this contradiction: it excludes other bodies and yet is really dependent upon them. Seemingly it is independent, really it is dependent. Here is Fate; and when sensation exists there is pain. For pain is the perception of dependence, the feeling of alien existence involved with one's own existence.

Were there only material things in the universe; were matter and body all, there would be no true individuality, and there could not even be pain; for there could be no *feeling*, and where there is no feeling there is no pain.

Feeling and perception belong to individuality. Not that one would assert that feeling *is* individuality—but that it *implies* individuality and arises in the relation of individuality (which we may call SOUL in order to give it a name) to body.

But how is it possible for there to be other being than material being? How is it possible that there can exist any true individuality? In other words, the question is: How there can be a realm of freedom as well as a realm of Fate?

Here is the sceptical standpoint which is held by so many students of natural science in the present day. They study matter and its laws; and becoming absorbed in the vision of Nature with its myriad processes of action and inter-action, wherein individuality is only a transitory equilibrium of evanescent forces, they see no possibility of persistence of individuality, and frankly tell us so. They see only Fate: everywhere one body being

constrained to be what it is by other bodies external to it. The totality of surrounding conditions necessitates each and everybody to be what it is and prevents it from being aught else.

With the vision of material nature before one's mind, how can one conceive of the possibility of freedom or immortality? There are only necessity and fate omnipresent in Nature.

One must rise to a more lofty and comprehensive mode of thinking if he would see beyond Fate. If one thinks Nature as a whole—or matter as a whole—or body as a totality, he cannot but find that Fate is conditioned in a higher than itself. The Absolute Totality is and must be free. Having found freedom as the presupposition of Fate, one has the key to the higher phenomena of nature—the phenomena of life. Freedom creates necessity or Fate, on the one hand, and on the other makes war upon it through living, organizing, souls. The struggle of life against externality—its endeavor to subordinate body to internality—is the conflict between freedom and fate. In plant life there is nutrition and re-production of the species so that the individuality of the species is preserved. In animal life there is also *feeling*, and this is a very important addition. In the plant, externality and fate still hold sway to such an extent that one part of a plant exists almost indifferent to every other part. The plant individual does not realize its unity in each one of its twigs and branches, leaves and fruit. But the animal feels throughout, and his feeling is a realization of his unity in the many parts and organs of his body. Human life rises above feeling to thought. The distinction between the two lies in the fact of *generalization*. Feeling, pure and simple has for its object what is here and now, or particular in time and space. The animal cannot feel what is past or future, but only what is now. Likewise it cannnot feel what is not present to its organs in space—its object must be here. But thought has for its object only what is at once present, past, and future—here and not here. What is general—is many particulars in one—is the object of thought but not the object of feeling. Thought is a process of combination.

That which is general and is at once here and there, past, present and future, has not the limitations of matter or body. It does not exclude but includes. Hence freedom gains the victory over matter in the process of thought.

But I may be reasonably accused of dogmatism because I have not shown how the student of natural science is forced to think

freedom as the ground of necessity, but have merely asserted it. On the other hand, I must not longer distract attention from the art phase of the question by a metaphysical disquisition. I will only point out the *method* of the investigation.

The steps are three:

(a) Natural Science in its first step is occupied with bodies, which it finds of course mutually exclusive and space-filling; it learns to think everything under the form of body, and hence as possessing only external individuality.

(b) But it comes upon closer study of the world to regard *force* as the true objective existence. This is its second step. It finds bodies continually undergoing change by reason of the action of forces upon them. Forces outlast bodies. Bodies are formed and unformed by forces. Forces are the fates of bodies. But forces themselves do not retain their individuality, but each force exists only in its own decay. A force dissipates itself in acting. It passes from one form to another, and thereby loses itself. Heat, light, electricity, gravitation and cohesion exist only as processes which continually pass, one into the other. This is the doctrine of the correlation of forces. Every mind that has learned to think according to the law of correlation of forces, thinks fate and no freedom and no preservation of individuality. All particularity gets destroyed; each special body loses its special form and shape through external forces. Each special force passes over into another, and naught abides.

(c) But if thought will only hold fast its results it may escape this dismal standpoint of Fate. Let all individualities go—let the bodies pass away as they arise; let the forces evanesce and lose their distinctions—what then? There is then only one force underlying all particular forces, and this one force abides. No body abides, for bodies are only the equilibria of forces. Each force loses its character and becomes another. Hence special character of forces vanishes and all forces flow together into one. This one is universal, because it is common to all forces. But it must also be regarded as the process that creates by its activity all the special characteristics which distinguish the different particular forces. The one force acts and produces. But it does not act on other forces, because there are no others. It acts on itself, and in this process of self-activity it generates the special forces with all their distinctions, and, by the same process, it perpetually annuls them. In this process likewise there arise the equilibria which we call bodies.

If we cast only a timid glance at this one force which is necessarily pre-supposed by the Natural Science doctrine of the correlation of forces, we see a frightful vortex in which everthing individual is swallowed up and destroyed. But the same glance repeated discovers to us likewise the palingenesia of all things. It is creative as well as destructive, and it is the same might that is both destructive and creative.

Who can deny that this thought underlies and is the logical condition of the doctrine of the correlation of forces—the favorite doctrine of Spencer, Huxley, Grove, Tyndall and Faraday —of Buechner Karl Vogt and Moleschott?

And yet if we throw off our timidity and fearlessly examine this thought of the *one persistent force*, we shall find that with it we have entirely left the second stage of thought, and given up the idea of fate as the ultimate idea.

The idea of fate presents all objects to us as constrained by external objects or forces. No thing is free or controls itself or forms itself, but everything is formed and controlled *ab extra* by outside influences. But here we have found that all thought of fate implies or necessitates the thought of a one that is self-determined, self-active, creative. If bodies and forces are acted upon there must be a self-acting force from whence comes all of the formation that goes on in the world of bodies and forces.

Once emancipated from the thought of Fate as the highest thought—from the thought of Externality as the form of all existence—and a great regeneration will take place throughout one's views and convictions of the world.

With this third mode of viewing the world, all bodies and all forces are to be looked upon as phases of the manifestation of a self-determining FREE energy. Consequently the totality of each individual is free, and only its partiality is under fate or necessitated. All necessity is the manifestation of the unity of freedom.

But a more important insight is this: A self-determining one exists at once at both ends of its process—on the one hand as universal and devoid of all particularity, and on the other as special and particular, fixed and determined. But it is an essential energy, and therefore in its specializing activity which produces the particular thing, it annuls or destroys the particular thing, and hence realizes its universality. Hence it is a thinking being.

The most important insight here is that such a One persists in

self-determination only to the end that it may realize itself. Its results, therefore, cannot be simple annihilation of what it has made, but the elevation of its creation up to the point of a self-activity like itself. Hence in the world we find, besides bodies or forces, also life, or *self-manifestation*. Life is emancipation, and *Thought* is its consummation. The principle of life is synthesis, combination, PARTICIPATION. Thought or mind is the realization of this principle. Hence the problem of life finds its solution in the law: Act for others; live through them; combine with them. For it recognizes itself in the others, and thereby cancels the alien element which belongs to matter. Hence in human history arise all the institutions or combinations which serve to remove fate from the life of man and substitute for it forms of *human help*. The individual, so far as he is a natural being and possessed of a body, has relations to the without, is dependent and under fate. But human combination in the form of trade and commerce, of special industries, and above and beyond these in the institutions of the family, the State, the church, the civil corporation, shall make over man's externality into a *human* externality wherein his fate is only himself—is only the semblance of fate, but whose reality is his own self-determination.

Thus the solution of fate for man, as a union of the natural and spiritual, is to make the Race the shield of the individual, to surround the individual with the species. All culture means nothing more than this: that the individual by means of his activity, study and practice, avails himself of the experience of the race: acquires its wisdom, and gains its mode of acting.

'Thus, to return, we see the solution of the Hindoo sage, Kapila, was not out of the way. So far as man is a twofold being, spirit and matter, he feels and perceives the limitation and constraint which his body involves. Hence he is a being of suffering and pain inherently. But his solution lies in ascending into the universal activity of Mind on the one hand, and on the other in organizing his Species so as to form a new externality for himself that shall shut out the rude shocks of merely natural force and body, from himself. Kapila did not see the latter side or the realization of freedom, but he did see the former or the actualization of freedom through pure thought or insight into the truth.

Without letting go our hold on this twofold solution of the problem of fate, to-wit: the insight into free personality as the highest principle of the universe, and the guaranty and assur-

ance that we as persons are secure in our essence against fate, and secondly the possibility of shutting out fate proximately from our lives by uniting with our fellow-men in the labor of making a clothing of institutions to cover us as individuals from exposure, in short to shield the individual behind the race—holding on, I say, to this spiritual conquest over Fate, let us now turn to the more agreeable side of the subject, that of artistic presentation.

II. ARTISTIC PRESENTATION OF FATE.

In that wonderful version which Jordan has made of the old Norse *Sigfrid Saga* he utters this insight with unparalleled force: the nothingness of external bodies and the mighty importance of the fact that man's externality is his species, his own essence. (In Mr. Davidson's translation:)

> "And down to the night-realm of shadowy nothings
> Sank the seeming of Self from the soul of Brunhilde,
> The martyring lie of the mask of living,
> The dream of the drop that hath withdrawn it
> From the primal source, as itself were something,
> Weening to wax, while nothing waneth;
> To rend asunder and yet not suffer;
> To doom to perdition, secure of dying;
> To murder and mangle and not be maimed;
> With damning conceit and self-assertion,
> To say *Thou*, in addressing the rest of Existence,
> Nor hear the answer, in agony echoed:—
> 'I, the prime All, am within as without thee;
> Who worketh woe, to himself doth work it.
> Attempt to torture, thou shalt in atonement
> Ache for thine evil, for thou *art* all things.'"

In stilling the clamor of the body, man is obliged to resort to social and political combination. The division of labor in Civil Society, the institution of the Family and the State,—all these are initiated to relieve man from the degrading slavery to bodily sensation. But only "initiated," for these institutions all serve directly a spiritual end; when Spirit can provide for the body incidentally while providing in the most direct way for the Soul, then it has achieved freedom, for the External no longer sways or swerves.

In these great institutions, the "Clothes of Spirit"—Family, Society, and the State—mankind arrives at the necessary conditions

of spiritual combination. These it would organize therefore as mere forms, were there no material need to goad it on—provided, once for all, that mankind had achieved rational insight into the means and demands of culture. But as the consciousness of the Race develops in Time, and is a *historical* existence and not an Absolute one, it follows that the bodily necessities with their pricking pangs are useful as initiatives,—nay, even necessary. Here divine Providence is manifest: Nature urges herself to complete introversion, and the "breath of Life" is compelled to sustain itself by contest with the clay dwelling in which it finds itself. In satisfying the physical, the spiritual is excited to activity, and gradually gains ascendance and independence. The "mask of life" and the subjection of the Spiritual to material ends is seen to be only *Maya*—a mere illusion of the senses. All this servitude and slavery has been only for self-knowledge, and for the freedom of the self from the self—the realization of the Universal in the Particular, the elimination of Fate.

The blind Samson grinds in the mill, not for others but for himself; the imprisonment in sensuous being must be broken by pain and stern renunciation. When it is done, down falls that lying torment, the Mask of Life (die qualvolle Luege der Larve des Lebens), and the soul looks through the interval upon the unveiled Eternal Verities. The Universal, the Absolute, God, is the root of this Ego which I call myself, and when I free myself from the glare of the senses (which cause selfishness in place of self-consciousness) I shall live and have my being in the presence of this great fact.

> "Before I was a Me, in God then was I God,
> As soon as I shall die I shall again be God,"

says Angelus Silesius. And Fichte, in a sonnet, says (in Seeley's translation):

> "The Eternal One
> Lives in my life and sees in my beholding.
> Nought is but God, and God is nought but Life.
> Clearly the veil of things rises before thee.
> It is THYSELF! What though the *Mortal* die,
> And hence there lives but God in thine endeavors?
> If thou wilt look through that which lives beyond this death
> The veil of things shall seem to thee as veil,
> And unveiled thou shalt look upon the Life divine."

The cancellation of the seeming is necessary in order that man may realize his freedom from fate.

III. MICHAEL ANGELO'S "FATES."

It is strange from this point of view that the ancient Greeks and Romans represented artistically the fates (Parcæ or μοῖραι) as dealing merely with the span of life, but we must remember that organic life is the theatre of the contest between essential life (or Mind) and essential fate (or Matter), and that the cutting of the thread of life is, in one sense, the defeat of the spiritual principle of the life energy. Indeed, the culmination of pain is the triumph of death; and, as Kapila understood it, pain is the reality of Fate.

The Greek would not admit anything into his art that lacked the element of cheerfulness, and though his gods on Olympus are not absolute, but subordinate to fate (as the myth of Prometheus shows), yet he would not consent to represent these Fates in art realistically; that is, with their terrors. Instead of being primordial like Nemesis, which levelled the high and the low, they were fabled by Hesiod to be the daughters of Jupiter and Themis (i. e., children of justice or order, and spiritual might). They were Clotho (the spinner), Lachesis (the distributor of destiny) and Atropos (the unchangeable). Some make Clotho hold the distaff (others have her also spin), Lachesis to spin or to measure off the allotted portion; and Atropos to sever it—and this is Michael Angelo's conception in this picture. Similar to this feature in the Greek representation of fate, is that of the old Norse mythology, in which the Norns sat by the Urdar fountain under the root of Ygdrasil, the great tree of life or the tree of creation, guarded this fountain and measured off the stream of life for each man. They were Urd—present, Verdandi—past, and Skuld the future. (Urd=the present, or the flowing moment of time; Urdar fountain=the fountain of time).

Michael Angelo has taken the idea of the fates from *popular* mythology, instead of the more classic form of the myth.* He represents Clotho as holding the distaff, Lachesis as spinning

*It is by no means certain that Michael Angelo painted this picture, though it is probably from a design of his.

out the thread, and Atropos as cutting off the thread and as choosing the point at which she shall sever it.

Clotho, according to Michael Angelo, holds the distaff; it is full of flax—full of life; there is unlimited substance of life. Clotho sings carelessly, looking neither to the right nor to the left. There is no more need of her thinking about the end of life, than there is for the infant child to do this. The first dawn of morning does not suggest the evening.

Her face is not beautiful, the open mouth of a singer is not pleasant to look at in a picture, and Michael Angelo has placed her in the background in so deep a shade that the attention of the observer will be perforce concentrated on the two sisters. She is absorbed entirely with her own task—that of supporting the as yet unparticularized life, life in general—the fullness of life. Her song is exulting and loud.

Lachesis spins out the flax into individual threads of life, drawing the flax from the full distaff held by her sister. She spins out the individual lives generously, a good long span—at least three score and ten for each—perhaps four-score. It is not Lachesis in this picture who measures the life of man; she would prefer to have all lives long lives; holding the thread with her left hand, with her right she draws it out to full length. But Atropos here comes on the scene. Suddenly Lachesis feels an arm placed over her own, holding it firmly in position; and she hears the sharp click of the "abhorred shears," and turning she meets the gaze of her sister with a mute appeal in her eyes: "Why not give to all their full number of days?" But in the eyes of Atropos she reads stern resolution, though tempered by love. Atropos does not open her firm lips, but says as plainly with her widely opened eyes: It can not be done, my sister, though I would gladly yield to your wishes — the life must be cut off just there——and the clink of the closing shears ends the mute dialogue.

In the ordinary engraving of this picture (the excellent heliotype copies which we have are not taken from it) one will see that the engraver in drawing the picture has mistaken altogether Michael Angelo's conception of Clotho. The picture is old and somewhat indistinct, and the engraver evidently has thought that the expression on Clotho's face is one of horror; he has made her eyes open widely and turn askance so as to look toward her sisters; her lower jaw drops with the shock of terror that

comes over her as she sees the movement of Atropos, and realizes that her full distaff shall spin out into individual lives and drop away in mutilated threads. In the photograph* before us, which is nearly of the same size with the original picture, and is taken directly from the painting under strong illumination, we can see the pupils of the eyes distinctly, and recognize the fact that the gaze is straight forward:—The eyelids droop a little, as is the case when one is singing with feeling. Her brows are slightly contracted, and the muscles of her cheeks and the opening of her mouth too, all indicate the effort with her vocal organs. In case of horror, the cheek smooths and blanches, the lower jaw drops passively, and the rim of the lips assumes a different contour from the one given to Clotho in this picture. In case of fear, the eyelids lift and the brow arches, but does not contract, and the white of the eye appears above the iris. But Clotho's eyes wear an absent look; she seems to gaze into the past. The withered dame thinks only on the long-vanished youthful days when life was in its ascending node, and its future arched up into the sky, a rainbow-colored sign of hope.

Lachesis had been looking at the beautiful thread of life which she drew out with tender fingers and loving eyes, while she listened to her sister's cheerful song. Suddenly she felt a firm pressure on her right arm, confining it in its place and paralyzing her hand so that she could not control the thread. Her ears caught the unpleasant grating of the opening shears, and the glittering steel flashed on her sight. Turning to the right now, she encounters the wide-open, relentless eyes of Atropos. Her full, liquid eyes, look pleadingly. All the lines of her face deprecate the action of her firm sister. Her mouth bears the expression of pain and sorrow. Her head bows slightly with an involuntary motion to emphasize the remonstrance conveyed in her face.

Atropos is the most intense of the characters presented. She alone is vividly present: no absence of mind; no lapsing into revery over the past; no absorption of interest in the evolution of the lengthened thread of life. She is all concentration. The index finger points at twelve. Now, now is the time; the end is

---

*One can order it from Fratelli Alinari, 20 Via Tornabuoni, Florence, Italy. The heliotype copy is from the engraving of Gregorj in the Gray Collection, and may be ordered (price one dollar) from J. R. Osgood & Co., Boston, Mass.

come; the thread is severed. Atropos had come up from behind, unobserved by her sisters, and with careful deliberation had thrust forward her right arm so as to make her work sure and effective at once. By putting her elbow into the hollow of the bent arm of Lachesis she prevents any shrinking movement on the part of the latter, who would fain lift the thread with her right hand, and thus escape the fatal shears altogether, or else allow them to clip the thread of life off near the distaff, and thus grant a long life.

Had Michael Angelo left the arm of Lachesis free he could not consistently put into her face the deprecating look, for in that situation she must have co-operated with Atropos, who could not have severed the thread without the willing consent of Lachesis. The dramatic action is by this made varied and lively.

Atropos bends forward her head close to her sister's with an upward glance of unmistakeable purport. She answers the pleading of the other by a steady, unflinching gaze, entirely unmoved by the silent entreaty, except so far as to soften her features slightly with sisterly recognition. She indicates no trace of relenting or hesitation at the deed, but only a slight twinge of regret at the evidence that her deed causes pain to the sister. Her sharp and glistening eyes are as positive as the tense hand which thrusts forward the shears, with the thumb pressing the back of the blade, already in the act of closing it.

Michael Angelo has chosen for his Fates the features of Roman dames of noble family. Quiet dignity and grace, with great resolution and power of action, are evident in their features. They are completely enwrapped in clothing, and there is no suggestion anywhere of charming sensuousness. Fold after fold of drapery conceals the bust. The arms are sleeved to the wrist, and the superfluity of garment is there rolled back from the hand to give an air of busy work. Even the neck is covered and the heads are curiously wrapped about with long folded cloths. The artist has disposed the head-dress in such a way as to emphasize in a singular manner the characteristic expression of the face below.

The expression on the face of Lachesis is heightened by the smooth folds drawn around her head; for these folds are pleading and deprecating too.

The relentless mouth of Atropos curved differently from that of Lachesis to express determination and full assent in the deed against which the other remonstrates, is heightened in its effect

by the over-drooping corners of her head-cloth, which curves upward and forward like the horns of a fiend and suggests—faintly, it is true, but nevertheless perceptibly—the ears and cornute appendages of a brute. A bunch of cloth over her right ear misleads the senses as to the shape of her head, and carries with it a similar suggestion.

The head-dress of Clotho, on the other hand, is more suggestive of a frilled cap, indicating far less dignity and energy in her bearing. She is the symbol of the family, and the song that seems to come from her toothless mouth evidently relates to childhood and youth, or the golden prime of love and the season of the beginning of family life. Clotho's hand firmly grasping the distaff is seen just below the left hand of Lachesis, but the left hand of Atropos does not appear at all.

The shears of Atropos are of a peculiar pattern, selected apparently because they are so well adapted to show the tension of the hand in closing them, and because they may be guided so much better to their object (as in sheep-shearing).

Most prominent in the picture is the arm of Atropos bearing the shears. The most powerful light is concentrated on this part of the picture, so as to exhibit the distraining movement which pinions the arm of Lachesis to her side, and by pressure upon the tendons near the elbow benumbs its action, and prevents the sister from holding the thread out of reach after discovering the intent of Atropos.

Here is the image of Fate! The firm, uncompromising air of Atropos, and her immediate action—at once cutting the thread—midway in the journey of life!——no three-score and ten, but barely two-score, is the allotment of Atropos.

We may pass over much that suggests itself regarding the art of Michael Angelo in the presentation of these Fates—what relates to the sombre colors that he has used, and the skillful distribution of light and shade, and drapery; what relates to the family resemblance between the sisters—our reflections on the conditions of the descent of the soul into time and their close kinship to the destroyers of life——the identity of the cars that bring us hither with those that bear us hence: likewise the comparison of this work with other works by him on Christian themes, and their contrast in style and spirit.

These "Fates" are as noble and satisfying as the Laokoon——that ancient embodiment in stone of the gigantic struggle of man against the coils of Fate, the complications with surrounding conditions appearing in the guise of serpents!

SPINOZA — A SUMMARY ACCOUNT OF HIS LIFE AND TEACHING.

By George S. Morris.

Two hundred years ago there died in Holland a quiet thinker, not in his lifetime unknown to fame, and yet apparently regardless of the world's applause, whose works have produced a powerful influence upon the thought of to-day. Not that he has been the acknowledged master of so many minds, nor that his thought was altogether new. But he gave powerful expression to a type and direction of philosophic thought, which many minds to-day, and especially those trained in scientific methods, do, whether consciously or unconsciously, but repeat. Some of the most powerful of speculative thinkers in modern times, also, and more than one literary genius of wide-spreading influence, have thought and written in more or less pronounced sympathy with the doctrine of Spinoza. It is sufficient, in this connection, to refer to such names as Lessing, Schleiermacher, Schelling, Goethe, and Hartmann. The present year, the second centennial anniversary of the philosopher's death, has been signalized by special honors to his memory. A memorial statue in The Hague was dedicated in the presence of a concourse of scholars, and words of appropriate eulogy were pronounced by the brilliant French writer, Ernest Renan. Not a few articles in reviews and separate monographs have been recently published concerning Spinoza's life and works. In Germany a new edition of his philosophical writings and correspondence, in the original (Latin) text has begun to appear (ed. by Dr. Hugo Ginsberg, published by Erich Koschny, Leipzig).

Spinoza's "Life and Teaching," therefore, furnishes a timely subject for study. Nor will it be out of agreement with the spirit of this journal if, instead of writing at length *about* Spinoza, whether to praise or to blame, we content ourselves, in the present instance at least, with the presentation of a summary account of the thinker's life and thought, restraining for the most part any inclination to critical comment.

Baruch (Latin, Benedictus) de Spinoza was born in Amsterdam, Nov. 24, 1632. He belonged to a Jewish family, in comfortable circumstances, who with many others had been driven by

persecution from the Spanish peninsula to Holland. He was instructed in the rudiments of knowledge and in the religious faith of his nation by a Jewish master. To this was added elementary instruction in Latin by a German teacher, and then further classical study in the school of Franz Van den Ende, a physician of heterodox religious views.

Following the bent of the times, and his own inclination, Spinoza devoted himself earnestly to the study of mathematical and natural science, being encouraged and assisted in this by Ludwig Meyer, a zealous Cartesian. It was probably especially due to the influence of Meyer that Spinoza's attention was directed to the works of Descartes, which he did not fail soon to master.

Thus engaged, Spinoza did not carry out, in the sense intended by those who were originally set over him, their plan, that he should devote himself to theology. The rumor of his independence and heterodoxy in religious opinions early became current. The attempt is said to have been made to retain him in the Jewish communion by the offer of a generous pecuniary support, but without success. Anger armed against him the hand of a zealot, from whose attack Spinoza escaped with only a slight injury to the garment he was wearing. Fair means and foul having alike failed to convince him of his error, the synagogue proceeded to pronounce against him the ban of excommunication, accompanied with "all the curses of the firmament, which are written in the book of the law." This was in the summer of the year 1656, the twenty-fourth of Spinoza's life. In 1660, at the instance of the Rabbis, supported by the approval of the Reformed clergy, Spinoza was ordered by the town magistrate to leave Amsterdam for a certain number of months.

From this time until his death, Feb. 21, 1677, Spinoza dwelt in various places in Holland, principally Rhynsburg and The Hague, at which latter place he died. Not in such absolute seclusion as Descartes, yet, like him, avoiding notoriety and distinction, he led the quiet and solitary life of an earnest thinker. He was extremely simple in his tastes, being content with little, and supported himself in large measure by polishing glasses for optical instruments. He led a blameless life, taking a kindly interest in the welfare of those with whom he lived, and schooling himself by constant and successful effort to subject his emotional nature to the control of reason. He attracted the attention of the learned and the great, and carried on an extensive correspond-

ence. In the year 1673 the professorship of philosophy in the University of Heidelberg was offered him. This he declined to accept, having, as he said, never designed to teach; fearing lest the work of instructing youth should seriously interfere with the prosecution of his own studies, and distrusting his ability so to instruct as not at least to seem to be "disturbing the religion of the State."

Of the works of Spinoza, all written in Latin, the two following were published during his lifetime: *Principles of the Philosophy of Descartes*, geometrically demonstrated, (1663), and *Theologico-political Tractate*, (1670). The object of the latter work is to prove "that the liberty to philosophize may not only be permitted without prejudice to religion and the public peace, but that it cannot be withheld without the destruction of both." The work is largely filled with Biblical criticism and interpretation, and is a classical work in the literature of modern rationalism. After the death of Spinoza, were published the *Ethics, Demonstrated in Geometrical Order*, and *Tractates on Politics*, and on the *Treatment of the Understanding*, together with the author's correspondence (1677).

The Ethics is a systematic presentation in the form of definitions, axioms, propositions, and demonstrations of Spinoza's metaphysical, psychological and ethical views. It is the principal one of his purely philosophical works. Some twenty-five years ago, an early production of Spinoza, translated into Dutch, being a "Tractate Concerning, God, Man, and Human Happiness," was discovered. It is partly an epitome of the views expressed in the "Ethics," and more particularly marks a certain stadium in the progress of those speculations of Spinoza, of which the latter work contains the final results.

THE "ETHICS" OF SPINOZA.

Spinoza inherited from Descartes the predilection for the mathematical method, the definitions of soul and matter as respectively thinking and extended substance, the criterion of truth and falsehood as lying in the relative clearness and distinctness or confusion of ideas, and the ontological argument for God's existence. But the free will which Descartes ascribed (in different senses) to God and man, was utterly denied by Spinoza. The final causes, which the former was inclined to ignore, if not to reject (and which, in order to be consistent with many parts of

his system, he should have denied completely), Spinoza absolutely rejected. The distinction made, but not very clearly defined, by Descartes between substance in the primary sense (self-existent substance, God) and substance in the secondary sense (created substances, bodies, souls) was repudiated by Spinoza, who admitted but one substance, infinite in all its infinitely numerous attributes. Of this substance the souls and bodies of men, and all other finite things, were but accidents, and all that took place in them was but the necessary and eternally determined result of the operation of its powers and laws. To it Spinoza gives interchangeably the names "God" and "nature." His philosophy may therefore be termed with equal right philosophical naturalism or pantheism.

The Ethics, in which the attempt is made to furnish a mathematical demonstration of this system, is divided into five parts, of which the first treats of "God." This begins, after the manner of geometrical treatises, with a series of definitions and axioms. The very first definition suggests one of the ideas which dominate and, as it were, strike the key-note of the whole discussion. This is the idea of causation. "By that which is its own cause (*causam sui*)," says Spinoza, "I mean that, the essence of which involves existence, or that, the nature of which cannot be conceived except as existing." The idea, the expression "*causa sui*," and the definition are borrowed from Descartes. It is evident that by the word "cause," in this connection, must be meant the *sufficient reason*. A cause implies an effect from which it is distinguished. Cause and effect cannot therefore, properly speaking, be identical. Hence a literal *causa sui* is impossible, and the idea is absurd. The eternal, or, in the language of Spinoza, "that, the essence of which involves existence," can have no cause. But it may and must have a sufficient *reason* for its existence, and it is this reason, and not a cause, which, in the case in hand, the "essence" referred to supplies. While the so-called "Principle of Sufficient Reason" in metaphysics is substantially recognized by Spinoza (see, for example, Eth., P. I., Prop. XI., 2d dem.), yet it belonged to a younger contemporary and critic of Spinoza, Leibnitz, formally to enunciate it, as distinguished from the principle or law of causation.

The other dominant idea of the "Ethics" is that of substance. This is declared in Def. III., to be "that which is in itself and is conceived by itself; that is, that, the conception of which does

not require, in order that we may form it, the conception of aught else." The expression "in itself" (*in se*) is of course used figuratively — certainly not with that mathematical exactness which we should naturally expect—and marks the distinction between substance and modes, which latter, like the Aristotelian "accidents," will be defined as existing, not "in themselves," but "in something else." The assertion that substance exists in itself, is therefore equivalent to the statement that it exists independently of anything else.

But that which we are here told concerning substance consists in a general averment respecting the manner in which it exists and is by us conceived. What substance more definitely is and under what form it is perceived or known, is declared in the next (fourth) definition, as follows: "By *attribute* I understand that which the intellect perceives in substance as constituting its essence." The attributes of substance are therefore identical with substance itself, and are simply the forms, under which the latter is (to use the term commonly employed by Spinoza) objectively "expressed" and known. Hence Spinoza can (see first letter to Oldenburg) also define the term attribute, like substance, as covering "all that which is conceived by and in itself, so that the conception of it involves the conception of naught else."

Def. V. explains the word *mode* as a name for the "affections of substance, or that which is in something other than itself, by the aid of which also it is understood." "By God," says Spinoza in the following Definition VI., "I understand absolutely infinite being, that is, substance consisting of infinite attributes, each of which expresses an eternal and infinite essence." "We will term that thing *free* which exists simply by the necessity of its nature and is determined to action by itself alone; and that *necessary* or *constrained*, which is made by something other than itself to exist and act in a certain and definite manner." (Def. VII.). Finally, eternity is "existence itself, in so far as existence must be conceived as following necessarily from the very definition of that which is eternal, and from the definition alone." (Definition VIII.).

Following the definitions, Spinoza lays down as "axioms" the following propositions: "All existing things are either in themselves or in something other than themselves." "Whatever cannot be conceived through the aid of the conception of another thing, must be conceived through itself." "From a given defi-

nite cause there follows necessarily an effect, and, on the other hand, if no definite cause be given, it is impossible that the effect should follow." "Knowledge of an effect involves and depends upon knowledge of its cause." "Things, which have nothing in common, cannot be known the one through the other, or the conception of the one does not involve the conception of the other." "A true idea must agree with its object." "The essence of anything which can be conceived as not existing, does not involve existence."

The above definitions (with the addition of one, the second, which states the meaning of the word *finite*), and axioms supply ostensibly the apparatus of demonstration, upon which the following superstructure of propositions, corollaries, and scholia rest. Of course, propositions which have been previously demonstrated are also used in the demonstration of those which come after.

The general purport of the conclusions reached in Part I., is, that there exists but one substance, that that substance is, not simply in kind, but absolutely, infinite, the real and exclusive possessor of all logically possible attributes, and is called God; that the divine nature and the laws of its manifestation (i. e., the laws of all *phenomena*) are inherently immutable, and that all forms of finite existence and action, including those which, like the human mind and will, seem most independent, are but necessary modes of the existence and agency of the one divine substance.

More particularly the argument arrives at its goal through demonstration of the following propositions: Substance is logically prior to its accidents, but it is identical with its attributes, so that, if these be changed, it is changed. Possessing different attributes, substances can have nothing in common with each other, nor can one be the cause of the other. Hence "there cannot be in the nature of things two or more substances of the same nature or attribute" (Prop. V.). Hence, also, substance is uncaused, or "it belongs to the nature of substance to exist" (VII.). This is the description which Descartes had given of the divine "substance," (it is the Cartesian "essence involving existence,") and the further Cartesian qualification of this substance as "infinite," is "proved" by Spinoza in Prop. VIII. to apply to "all substances." In Prop. XI. that is established concerning God (as defined in Def. VI.), which in Prop. VII. is demonstrated respecting substance, namely (by the ontological argu-

ment) that he exists. Now if "all substance" is necessarily infinite, it is reasonably evident that there can be only one substance; and if God, defined as an absolutely infinite being, necessarily exists, it is obvious that he is the one substance. These two conclusions are combined in Prop. XIV.: "Other than God no substance can exist or be conceived." Hence the manifest inference, drawn in "Corollary II.," that "extended and thinking things are either attributes of God or affections of attributes of God." This relation of "things" to God is termed, in the following proposition, "being in God," without whom "nothing can be conceived" (XV.). In a scholium to this proposition the affirmation is defended and discussed, that "extended substance is one of the infinite attributes of God." As such it is itself infinite, one, and indivisible. It is indestructible. "Water, as such, may be divided and its parts separated: but not, regarded as material substance; for, in this latter point of view it can neither be separated nor divided. Further, water as water is subject to generation and decay, but as substance to neither." This is equivalent to the more modern assertions of the indestructibility of "matter" and "force."

From the infinite and exclusive reservoir of substance and power, or "from the necessity of the divine nature, must follow an infinite variety of effects in an infinite variety of ways, i. e., everything which can be conceived by an infinite intellect" (Prop. XVI.). Hence it follows that God is the efficient, necessary, and absolutely first cause of all things (Corollaries I.–III.). Not only this, but also "God acts only according to the laws of His own nature, and constrained by no one" (XVII.), and is therefore a free cause (cf. Def. VII.) and the only free cause (Corol. II.). In a scholium to Prop. XVII. Spinoza illustrates the peculiar sense in which he affirms God to be the cause of all things, when he says, referring expressly to Prop. XVI.: "I think that I have shown sufficiently already, that from the supreme power or infinite nature of God * * * all things have resulted, or do, ever with the same necessity, result, in the same manner in which, from everlasting to everlasting, it results from the nature of a triangle—that its three angles are equal to two right angles." This is at best but a highly figurative application or illustration of the causal relation. The nature of a triangle or the nature of things may be to us a sufficient *reason* and the only one which we can give for the equality of the three angles

of a triangle to two right angles. But that this equality is an *effect* of that nature, distinguishable from and produced by the latter as its cause (as the relation of cause and effect would properly imply), is obviously not the case. Yet in the further discussion, in this same scholium, of the relation of the divine First "cause" to one of its finite "effects," Spinoza quietly abandons this false conception of the causal relation, and proceeds forthwith practically to adopt more nearly the common and literally exact one. Anticipating results to be subsequently demonstrated, he affirms that neither intellect nor will, as commonly understood, belongs to God, and that if there be anything in the divine nature to which these terms may be applied, it is so different from human intellect and will, that it can agree with the latter only in name. (The student of current English philosophy will notice the identity of this affirmation with what such men as Herbert Spencer now proclaim concerning the "Unknowable," the "First Cause"). To prove this, Spinoza employs, for the time being, an argument drawn from the necessary relation and distinction between cause and effect, as generally perceived and admitted. Here the divine intellect is asserted to be the cause, both of the (abstract) nature and of the (individual) existence of things. Of the former it may well be *conceived* to be the "cause," in the same sense in which the (universal) nature of the triangle is the "cause" of the (universal) equality of the three angles of every triangle to two right angles. For both the divine and the human intellect, regarded in their *nature*, are viewed abstractly, and may be *conceived* to be related to each other in any manner which does not involve logical contradiction. But of the individual or separate existence of created things, this cannot be affirmed. Granting that their "natures" may be accounted for by the allegation of their community with or essential involution in the divine nature, yet no such "cause" (reason) of their separate *existence* can be asserted. For they exist, *ex hypothesi*, as *distinct*, and at least relatively, independent things. As such they are numerically different from each other and from their cause. As finite, they are to be distinguished from the infinite, and cannot in so far be explained as involved (by abstract necessity) in the existence of the infinite. They must, unless regarded as independent and distinct existences *ab eterno*, be looked upon as bearing to the infinite the true relation of effect to cause, where cause and effect are not one, but different.

This necessity now, Spinoza, in the immediate case in hand, practically admits. "The caused," he now says, "is distinguished from its cause precisely in that which it derives from its cause." This obviously involves a totally different conception of the relation of cause and effect from that which the case of the triangle illustrated. From it would follow only, with respect to the proposition which Spinoza is here immediately seeking to establish (namely that human and divine intellect agree in nothing but in name), that the human intellect is *distinct* from the divine, but not that it differs from it in essential nature. (From the notion of "cause," or of the relation of God to created things, enunciated in Prop. XVI. and the illustration thereof cited above, it would even follow, on the contrary, that the created must not only resemble, but be identical with the creator). This is apparent from the very example here employed to illustrate the distinction between cause and effect, where these are really *distinct things*. The example is that of one human being who is the cause of the existence of another human being. Both are distinct, but both (as Spinoza neglects to add), are not unlike. From this Spinoza concludes that the divine creative intellect is *distinct* from the human, created intellect (which all men admit), and hence that the one is *toto coelo different* from the other, the two agreeing in nothing but in name! The latter part of the conclusion is so obviously and utterly unfounded in anything which the premises contain, and is moreover in such patent contradiction with the analogy of the example given by Spinoza himself, that one can but wonder at the simplicity of the fallacy by which he dupes himself and virtually seeks to dupe others. (The fallacy is concealed in the Latin text of Spinoza in the double sense given to the word *differre*, which is employed to express not only numerical but qualitative difference). For the rest, the right of Spinoza to assert the total disagreement of the human and divine intellects (or, in general, of the finite and the infinite) in everything but in name, may be successfully contested by comparing this assertion with Prop. XV., with Prop. XVII., Schol., and with the Demonstration to Prop. XVIII., all taken in connection with Axiom V. From the three former it appears that all things are in God, and especially must be conceived "through" or as related to the idea of God. From the latter we learn that things which have nothing in common cannot be known, the one through the other, or the conception of the one does not involve the con-

ception of the other. It follows then that the human intellect, on the one hand, is only known "through" our knowledge of the divine intellect, and hence, on the other (by Ax. V.) that both have something more than the mere name in common. From all this it may appear that the geometrical form adopted by Spinoza did not in every instance secure exactness in the definition and use of terms, or preserve from logical inconsistency.

The notion of cause last employed, where cause is treated as numerically distinct from effect, and where the notion is expressly applied to the relation of the infinite cause to one of its finite effects (the human intellect), is immediately withdrawn in the next following proposition (XVIII.), and the other notion (illustrated above by the case of the triangle) is resumed and reaffirmed with reference to the same and all similar relations. This proposition declares that God, as the cause of all things, acts from within and not from without. The demonstration runs as follows: "All existing things exist in God and must be conceived through God (Prop. XV.), and therefore (Prop. XVI., Corol. I.) God is the cause of the things which are in him. This is the first point. Further, beside God there can be no substance (Prop. XIV.), that is (Def. III.), nothing which, being external to God, exists in itself. This is the second point. Therefore, God is the immanent and not the external (*transiens*) cause of all things: q. e. d." Notice that God is the cause of all things, because they "must be conceived through God." In other words, God, or substance, is general, things are particular. The former includes the latter, and the latter are not properly "conceived" except when their inclusion in the former is recognized. Precisely so the general idea of the triangle, fully comprehended, involves the special idea of the equality of its three angles to two right angles. This logical or ideal dependence of the particular upon the general is that which is held by Spinoza to constitute the relation of cause and effect; "the order and connection of ideas and the order and connection of things are the same" (Part II., Prop. VII.).

Now, God is eternal (XIX.). His nature and his existence are one and the same (XX.). Both are eternal truths, or, rather, they are both one and the same eternal truth (Corol. I). These propositions amount to the assertion that there can be no question concerning the beginning and the end of being. Something must eternally be, and we cannot conceive the contrary. This is, in substance, asserted to be an "eternal truth" of fact. It is

the fact of evident generality in human thought, and when we have once apprehended it, Spinoza would tell us, we have apprehended the nature of God. For being is God's nature. The necessity and eternity and infinitude of the former (see Def. VI.) are the necessity and eternity and infinitude of God.

The divine nature, then, is the one infinite sea of being, and all finite things are but derivative manifestations of its substance. "Particular things are nothing but affections or modes of the attributes of God" (XXV., Corol.). It will be remembered that the divine attributes are identical with the divine substance. They simply "express" what this substance is. Thus, thought and extension are attributes of God, and the only ones, in fact, which Spinoza mentions among the infinite number which he ascribes to God. Hence we may say that God is thought, and God is extension, or, since thought and extension are for Spinoza, as for Descartes, respectively identical with mind and matter, God is mind and God is matter. Evidently Spinoza regards these two attributes as the only ones known to us. "Particular things," then, we may say, are, as far as known to us, "affections or modes" of mind, or matter, or both. In them, however, nothing is accidental. "Nothing in nature is contingent, but all things are constrained (*determinata*) by the necessity of the divine nature to exist and to act in a fixed manner" (XXIX.). The divine nature, as thus the constraining cause of an infinite variety of effects is termed, in agreement with the terminology of Scotus Erigena, *natura naturans*. The whole sum of effects, on the other hand, "i. e., all the modes of the attributes of God, in so far as the former are regarded as things, which are in God and can neither exist nor be conceived without God," is termed *natura naturata* (XXIX., Schol.). To the latter, exclusively, belong intellect, whether finite or infinite, will, desire, etc., and not to the former. These are all modes of the divine attribute of thought, and are hence effects (XXXI.). Hence there can be no freedom of the will (XXXII.). Since all things have resulted necessarily from the nature of God, such as it actually is, it follows that they "could not have been produced in any other manner or order than the manner and order in which they have been produced" (XXXIII.). The word "accidental," therefore, is a purely relative term, which, as employed by us, only serves to indicate our ignorance (Corol. I.). Further, it follows, says Spinoza, clearly from what has gone before, that all things have been

produced by God in the highest perfection, since they have all resulted necessarily from his own most perfect nature (Corol. II). In the same corollary Spinoza defends his conception of the manner in which God caused the world, against rival theories which ascribe the existence and nature of things to arbitrary fiats of a divine will, or to motives of any kind operating on the divine mind. It is better, since God's nature is most perfect, that all things should flow necessarily from it. It is better that God, although free from external constraint, should yet act constrained by the laws of his own being. God, then, is one who does all he can and cannot do otherwise than as he does. *Natura naturata* is the strict and complete expression of *natura naturans*. We need not therefore be surprised to find Spinoza, who had previously identified the *existence* of God with his nature or essence, now affirming, "The power of God is his very essence" (XXXIV). The connection is evident between this proposition and the two which immediately follow, and with which Part I. of the Ethics ends. "Whatever we conceive as being in God's power, necessarily exists." "Nothing exists, from the nature of which some effect does not flow." Thus we find that portion of the Ethics which expressly relates to "God," terminating with the conception of God as an universal force, acting throughout eternity with mechanical necessity, according to immutable laws of cause and effect. God is whatever is; he is nature, he is the one power, of which all things are strictly determined manifestations. He is the force which (in the language of to-day) "persists" amid all the changing variety of material and conscious phenomena. Moral and æsthetic perfections he has not. Such perfections (as Spinoza will subsequently attempt to show us) are myths. Perfection is simply reality (Part II., Def. VI.). It is *being*, and God is the "most perfect being" because he possesses most being, because in him is contained all possible being. God can only be distinguished from the world, in the Spinozistic system, in thought, by abstraction. As thus distinguished he is consequently nothing but an abstraction, i. e., he *is* nothing. Otherwise, or concretely regarded, he is identical with the world, and the use of the term "God," since it here denotes no being who is personal and the subject of moral attributes, is unjustified and misleading.

In an appendix to Part I. Spinoza seeks indirectly to re-enforce

the above materialistic and fatalistic conclusion, by showing that such a thing as intelligent choice, i. e., action determined by motives, or, still otherwise expressed, causation according to the so-called principle of final causes, nowhere exists, whether in the sphere of human activity or in the larger field of the divine agency of nature. The general belief of men to the contrary, as regards their own actions, is declared to result simply from their well-nigh universal ignorance of the causes which really determine these actions. Their ascription of motives or purposes to nature (or God) is likewise said to follow from an unjustifiable tendency to reason concerning what they do not directly know, from the analogy of that which they mistakenly think that they directly observe in themselves. Were it not (principally) for the existence of a science of mathematics, "which has to do, not with purposed ends, but only with the natures and properties of figures," Spinoza fears that "the truth would have remained eternally concealed from the human race." The doctrine of final causes, then, results from prejudice. It reverses the natural order, making cause to be effect, the earlier to be the later, and *vice versa*. Further, it makes of that which is highest and most "perfect," the least perfect. When one assigns the "will of God" as the reason of any event, he is therefore simply taking refuge in the "asylum of ignorance." Although these opinions follow directly from the principles of Spinoza, as set forth in Part I. of the Ethics, yet the attempt to confirm them by demonstration of the folly of the opposite view is weakened by the fact that he does not choose to understand the views of his opponents in their best sense. He does not distinguish between the "teleology" of the simple and ignorant, who see in all things an express adaptation to human and individual needs and improvement, and only this, and the teleology of the wise, defended by all the greater theistic idealists from Aristotle's time till to-day, who look at the universe as a whole, and find design more in the adaptation of the part to the whole, than in the subserviency of the whole to the part.

Other "prejudices" discussed by Spinoza in this appendix are those which underlie the common conceptions of good and evil, beauty and ugliness. These are all briefly disposed of as "modes of imagination," varying with each man "according to the nature of his brain," and having no foundation in knowledge. The "perfection of things must be estimated solely with reference to

their nature and power." And if any one ask, finally, "why God did not create men so that they would follow the guidance of reason alone," Spinoza answers, "Because he lacked not the material for the creation of all things, from the lowest to the highest degree of perfection; or, more properly expressed, because the laws of his nature were so comprehensive that they sufficed for the production of all things which can be conceived by an infinite intellect, as I have demonstrated in Prop. XVI." From this it would follow that the universe must contain an indefinite number of orders of existences superior to man, reaching up to the angelic nature. Of these, however, Spinoza says nothing expressly.

Part II. of the Ethics treats of the "Nature and Origin of the Mind." Of the "Definitions" with which it begins, some of the most important are those in which a material body is defined as a "mode, which expresses in a fixed and definite manner the essence of God," viewed under the attribute of extension (I.), an *idea* is said to be a conception formed by the mind (not received by it passively from without, as in the perception of external objects) (III.), an *adequate idea* is called one which, independently of its object, possesses all the properties or intrinsic marks of a true idea (IV.), and *reality* and *perfection* are affirmed to express one and the same thing (VI). The "Axioms" assert that the essence of man does not involve necessary existence (I.), that "Man thinks" (II.), that such "modes of thought as love, desire, or any others which are termed emotions of the mind, cannot exist without the presence in the same individual of an idea of the thing loved, desired, etc.," but the idea may exist without the emotion (III). "We feel our own bodies to be affected in many ways" (IV). "We neither feel nor perceive any individual things other than bodies and modes of thought" (V).

In the first proposition we are informed that "thought is an attribute of God, or God is a thinking thing." The mystery which in Part I. was left surrounding the nature of the divine thought is not cleared up in the demonstration affixed to this proposition. Just as in the former plan, that which we connect with the idea of thought (viz: intelligence, as resulting from the possession and implied in the use of intellect) was denied to God, so here "particular thoughts, or this and that thought" are said to be modes which "express" and "involve" a divine attribute of thought, but are not identical with it. Since the thought of God

is no thought in particular, it can only be thought in general, and that too, infinite, without limitation or determination. But this is an irrational conception, and hence leads to the conclusion that the "infinite thought" of God is no thought at all. Still, in the corollary to Prop. I. it is affirmed that "we can conceive an infinite, thinking being." But there is nothing in the corollary nor in Def. IV. of Part I., to which in it reference is made, that shows that it is really possible to conceive an infinite thinking being who has no thoughts in particular. The conclusion is left to be drawn—and it is impossible to avoid drawing it—that Spinoza was not perfectly clear concerning that which he affirmed, and hence that he fell into grave inconsistencies.

"Extension," says Spinoza in the second proposition, "is an attribute of God, or God is an extended thing." "In God there is necessarily an idea, as well of his essence, as of all things which follow necessarily therefrom" (III). From this proposition and the demonstration annexed to it, it would seem to follow that there is a divine intellect, in which there is an infinite multiplicity of ideas. In what manner does the "idea of God and of all things which follow necessarily therefrom" exist "in God," if not as a conscious, intellectual possession? If God in any proper sense has the idea of all these things, then he has "particular thoughts," in contradiction to that which was above quoted as asserted by Spinoza. But, here, again, just as he seems to be verging towards an intelligible theory of the divine knowledge, Spinoza appears to oscillate anew toward an opposite opinion. Prop. IV. states that the "idea of God, from which things [and ideas] infinite in number follow in infinitely numerous ways, can be only a single one." It is difficult to see what, in this connection, can be the pertinence of this proposition (which rests, by the way, simply on the alleged reason that "God is one"), unless it be intended to teach that the many ideas of finite things, which "flow from" the idea of God, are only implicitly or logically contained in God's idea of his own essence, that God has, properly speaking, only this one idea (which, it would be easy to show, on psychological grounds, is to have no idea, i. e., to think nothing at all), and that therefore he does not distinctly possess the idea of particular things. This is undoubtedly the intent of Spinoza. God is for him the universal. The expression "idea of God," and "infinite thought," are but descriptions of God, considered under one of the attributes under which the human mind

perceives him. When the divine being is conceived under so abstract a form, he ceases to be a definite object of thought, and it is no wonder that there should be obscurity and wavering in the attempts of the philosopher to make accurate statements concerning him. But it is time to allow our narration to take its course. These digressions have been permitted only for the purpose of calling attention to difficulties and uncertainties which are founded in the nature of the text itself, and for which the careful student must constantly watch in his study of it.

The causes of our ideas are not the objects which they represent, but God himself, viewed in his quality as thinking being (Prop. V.). "The order and connection of ideas and the order and connection of things are the same" (VII.). The proof of this weighty proposition (held also, substantially by Descartes) is found by Spinoza in Axiom IV. of Part I. The order and connection of ideas agree with the order and connection of things, because the knowledge of everything which is caused depends on the knowledge of its cause. Things and the ideas of them, Spinoza observes in a scholium, are but the same substance regarded under different aspects—in the one instance as modes of extension, and in the other as modes of thought. Viewed under the latter aspect, the whole order of nature is to be ideally explained. Viewed under the former, it must be explained mechanically, or according to the laws of extension.

As the human body is a portion of the divine extension, so the "human mind is a part of the infinite intellect of God" (XI. Cor.). The human mind is a self-conscious idea (a description, which results from an imperfect psychological analysis and is inherently absurd). The "object" of this idea is the human body (XIII.). Man is therefore a compound of mind (*mens*) and body (XIII. Corol.), and this is true not only of man, but of all other individual things, all of which, although in different degrees, are endowed with soul (Scholium). The power of the mind to perceive and distinctly to know varies along with the independent power of the body (see the same Scholium and Prop. XIV.).

Memory is explained as resulting from an association ("concatenation") of ideas (XVIII.). Consciousness (*idea ideæ*, the "idea"—or "mind"—perceiving itself) is the very form, inherent in the idea (mind), which it has when regarded as a mode of actual thought, without relation to its object (XXI. Schol.). The body being made up of numerous individual parts, which cannot

be distinctly and separately known except by the slow process of analysis and comparison, it follows that our ideas of these parts, as also of the affections of the body, are naturally indistinct and confused (XXIV.–XXIX.). But all ideas, in so far as we derive them from participation in the divine intelligence, are true (cf. Prop. XXXII.), and every idea in us, which is "absolute or adequate and [intrinsically] perfect," is true (XXIV.). Nor is there contained in ideas any positive element or quality, in view of which they can be termed false (XXXIII.). "Falsehood consists in that lack of knowledge (*cognitionis privatione*), which inadequate or mutilated and confused ideas involve" (XXXV.).

But if the knowledge of particular things, all of which are contingent and perishable (in this sense, and in this sense alone, that we can have no adequate knowledge of their duration, (see Prop. XXXI., Corol.) is subject to confusion and imperfection, our ideas of that which is common to all things, being contained alike in the part and in the whole, can only be adequate (XXXVIII.). Hence Spinoza infers that there are "some ideas or notions common to all men" (Corol.). These ideas constitute the foundations of reason (XLIV., Corol. II.). There are three kinds of knowledge, the first through "vague experience . . . opinion or imagination," the second through universal notions and adequate ideas of the qualities of things, or through "reason," and the third through intuition. The last of these proceeds from the adequate idea of the "formal essence" of certain attributes of God to the knowledge of the essence of things (XL., Schol. II.). "Knowledge of the first kind is the only cause of falsehood, while that of the second and third kinds is necessarily true" (XLI.). He who has a true idea knows at the same time that he has a true idea and cannot doubt the truth of that which the idea represents (XLIII.). Just as light makes known both itself and darkness, so truth is the criterion of itself and of falsehood (Schol.).

It belongs to the nature of reason to regard things not as contingent, but as necessary (XLIV.) or "under the form of eternity" (Corol. II.). This it can do, because "every idea representing a body or any single actually existing thing, necessarily involves the eternal and infinite essence of God" (XLV.). Of this divine essence the human mind has adequate knowledge (XLVII.). Such knowledge is involved in every true idea (XLVI).

Finally, "will and intellect are one and the same" (XLIX., Corol.). The foundation of will is therefore not in desire, but in intelligence. The will is the "faculty of affirmation and negation" (XLVIII., Schol.). Every idea, as such, involves affirmation or negation, i. e., an act of will (XLIX., Schol.). In the human mind there is no absolute or free will, but the mind is determined to will this or that by some cause, which cause is determined by some other cause, and this likewise by another, and so on *in infinitum* (XLVIII.). There is no mental volition, i. e., no affirmation or negation, except such as springs from an idea and is involved in it as such (XLIX. The demonstration contains a specimen of very questionable reasoning). Spinoza concludes Part II. of the Ethics with some practical observations designed to show the moral and social utility of a doctrine which subordinates the human will to natural, i. e., divine necessity.

The three remaining parts of the Ethics must be briefly summarized. Part III. treats of the "Origin and Nature of the Emotions." These are said to consist in confused ideas, resulting from the union of mind and body, and the subjection of man to various influences from without, which agree or interfere with the conatus inherent (though unconsciously) in every being, and which leads each one instinctively to "affirm," i. e., be pleased with, or "deny," i. e., repel with displeasure, whatever furthers or resists its own tendency. The fundamental emotions are, accordingly, pleasure and displeasure (or "sorrow"), along with desire. From them Spinoza seeks to demonstrate the direct or indirect derivation of forty-five others. On them he founds our notions of good and bad, and all our conseqent moral action.

Part IV. is entitled "Of Human Servitude, or of the Power of the Emotions." It is in reality, however, or in substance a treatise on the due estimate of the emotions, severally and collectively, and upon the course of self-culture through which they are subjected to the control of reason. It is rendered in a measure indistinct and inconclusive from the failure of Spinoza to recognize theoretically the fact of man's moral freedom. Practically, or by implication, he is obliged to admit this fact, and yet he labors, as far as words can go, to make it appear that he denies it. His general principles require him to recognize, in his speculations respecting practical ethics, only the "natural man," subject to the laws of physical necessity, and this he seeks to do. But he shows himself fully conscious that there is also a "spiritual

man," whose spiritual food is knowledge, and for whom the most important practical problem is to reduce by independent and earnest labor, freely undertaken and freely continued, the natural man to a state of due subjection and obedience. The contradiction is between premises and language, which are wholly fatalistic, and even materialistic, and an evident aspiration and intent which belie the premises. The good and the bad, we are told, are relative terms, which signify for man respectively that which promotes or hinders the natural development and due functioning of all his faculties. The term virtue, relating to man, is defined and professedly employed in its wholly natural signification, as when we speak of the "virtue" of an herb, etc. Just as the medicinal "virtue" of an herb is its peculiar power to effect a specific result, so human virtue is identical with the power of man to produce certain characteristic works. Its main-spring is that *conatus* in man which impels him to seek his own preservation, or, in other words, to act according to the laws of his own nature. Such action is virtuous, and none other. But Spinoza maintains, in substantial agreement with Aristotle, that the highest function or virtue of man is to know, or to use and follow the guidance of reason. On these principles his ethics, in the narrower sense, is founded.

The fifth and last Part of the Ethics is a continuation of the discussion begun in Part IV. under the title, "Of the Power of the Intellect, or of Human Freedom." This "power" is a power to eliminate from the emotions everything in them which is of the nature of passion. It is the power of true knowledge, which shows us all things, including our emotions, as necessary, and tends to remove disquiet and discontent. True knowledge, "of the third kind" ("intuitive" knowledge, as above explained), proceeding from the knowledge of divine attributes to the knowledge of their modes, or of finite things and phenomena, leads to the love of God. In such knowledge and love consists man's freedom. This love is disinterested, without envy and without jealousy, and increases with the knowledge that it is shared by others.

Imagination, continues Spinoza, and all faculties which are allied to it, depend on the union of mind and body, and disappear with their separation. But the mind as such, as a cognitive agent, is imperishable. Passion and all emotion which depends on the presence of the body, are perishable. Only that love is eternal which is through the intellect, the love of God founded on know-

ledge of him. But the eternity ascribed to the mind must not be confounded with unlimited duration. It excludes what duration implies, viz: change, and is founded on the identity in substance, of the mind with the divine, immutable being. In fact, the whole sum of finite minds, taken together, constitute the "eternal and infinite intellect of God" (Prop. XL., Schol.). Thus their eternity is the eternity of the divine mind. "God loves himself with infinite intellectual love" (XXXV.). On the other hand, "the intellectual love of the [finite] mind to God is God's own love, wherewith he loves himself" (XXXVI.). "Hence it follows that God, in loving himself, loves men, and that consequently God's love to men and the intellectual love of the [finite] mind to God are one and the same" (Schol.). Such love is proof against all attacks. With the increase of knowledge "of the second and third kinds," the influence of pernicious emotions and the fear of death are diminished. The same result follows from perfect bodily culture, on account of the close connection between the latter and intellectual soundness.

Although we are now convinced that the active portion of man's mental nature (the cognitive intellect—Aristotle's "active reason") is immortal, yet this conviction is not the ground of our assurance of the excellent character and practical utility of virtue, piety, and religion, these having been previously demonstrated to possess an independent value apart from all considerations of expected reward or dreaded punishment. "Not happiness, but virtue itself, is the reward of virtue, in which we rejoice, not because we restrain our lusts; on the contrary, because we delight in virtue, therefore is it that we are able to restrain our lusts."

This is the last proposition of the Ethics, and with it Spinoza claims to have completed the demonstration of his ethical principles. He has shown the power and advantage of knowledge, and the impotence and shame of ignorance. The way to happiness and moral health is evident, and open to all, though difficult to follow and by the majority neglected. "But all things of distinguished excellence are as difficult as rare." With these words Spinoza's masterpiece of speculative and practical philosophy closes.

Spinoza's celebrated contemporary, Leibnitz, regarded Spinozism as the "last extreme of Cartesianism." And, indeed, the student of the history of philosophy will note, readily and with interest, the close connection between the two systems. With

Descartes, God is recognized, theoretically, as the creator and preserver of all things. The continued existence of things is due to the constant agency of God. In this agency, the agency of an *intelligent power*, is found the true and universal type of genuine causation. Descartes recognizes, also, the absolute liberty of God. On the other hand, Descartes as a physicist showed himself completely under the domination of the "scientific" conception of mechanism or automatism—a conception which, as experience shows, inevitably leads in the direction of atheistic conclusions, unless kept in due subjection to, and not allowed for an instant to usurp the place of, the true idea of causation. (The still unresolved problem for many of our diletante but not uninfluential philosophers of to-day, is to reconcile mechanism with idealism, necessity with freedom; to see how *mechanism* is, as the word implies, but the use or operation of means for ends, and that the ends are set and the means directed by ideal causes—i. e. as above expressed, by *intelligent power;* and, finally, that the "necessity" of things is the necessity of wisdom and not of unyielding fate or of a mechanism which, of itself, can do nothing). Now, Descartes may be said to have handed over to Spinoza the two conceptions, the mechanistic and the idealistic or theistic, in unreconciled dualism, but with a marked tendency on the part of the former to supplant the latter. Spinoza takes them up, and instead of assigning distinctly to each its due place, seeks to blend them—but with this result, that the mechanical conception gains the upper hand and is made virtually primary, while the idealistic mostly fades out of sight or is treated as a derivative result of the former. Thus, the prevailing idea of God in the first part of the Ethics turns out substantially identical with the pseudo-idea of a universal force, the blind "cause" (?) of all things, which pervades so much of the philosophical writing of to-day. The duality of thought and extension, in Descartes' philosophy, reappears in the form of two attributes (and the only two of the "infinite number," which Spinoza mentions) of the one divine substance; identical in fact, but differing in manifestation.

The God of Spinoza is conspicuous on account of its lack of moral attributes. In this it resembles the God of Aristotle, but for different reasons. Aristotle's God possesses all intrinsic excellence, being inherently perfect. If he is not represented as good, just, tender, loving, etc., this is not because Aristotle considered these qualities as mere "modes of thought," denoting

nothing real, but because they were not included in his ideal of perfection. But the God of Spinoza is left without them, because the words good, perfect, and the like, taken in a moral sense, have no absolute significance, but are simply signs of "prejudices" of the human mind; and, further, because a *force*, abstractly considered, can have no moral character. God's "love" of himself, and of men in himself, can only be considered as a kind of mechanical consequence, or "virtue" of the operation of intellect.

There is abundant evidence to show that Spinoza possessed a nature deeply attuned to idealism. This may account for much that is inspiring in his doctrines of practical ethics and for many portions of his phraseology which the principles of his geometry of thought would not warrant.

But this is not the place for extended criticism. Many, doubtless, will be led by the occurrence of this second centenary of Spinoza's death to study his works, and to weigh his teaching. Like all human productions, they contain, in intimate union, large measures of fundamental truth, mixed with error. The mastery of his system, accompanied by a strictly just correction of its errors and appreciation of its truth, will be the best tribute that any can pay to the memory of one whose life was blameless, and who was undoubtedly an earnest and intrepid seeker after truth.

KANT'S "ÆSTHETIC."*

By David Warren Phipps.

I.

THE IDEA OF A CRITIQUE OF THE PURE REASON.

Kant criticises the human reason with special reference to its ability to attain knowledge transcending sensuous experience. He assumes Mind and independent Thing; and begins with the hypothesis that the seeming characteristics of the thing are really from the mind, and not marks of the thing-in-itself. For the

*A Thesis for the Bachelor's Degree in Philosophy, at the Massachusetts Institute of Technology.

contrary hypothesis, as held by Locke—that the qualities perceived are wholly in the thing, which impresses its character upon the passive mind—had been shown by Hume to leave no valid ground for universal judgments. For example: the notion of Causality has no warrant in the sense-impression (which gives only a relation of *sequence*, that has been exalted into a notion of causality by mere habit), and is to be classed as one of the illusions of the mind. But Kant thinks the mind can be justified not only in the addition of the Principle of Causality to the sense-perceptions, but in synthetical *a priori* judgments in general. Assuming it to be conceded that all real (as distinguished from merely formal) judgment is synthetical, he inquires how synthetical judgments are possible *a priori*. This question comprehends:—

1. How can there be a science of mathematics *a priori;* or, how is pure mathematics possible?

2. How can there be an *a priori* science of nature? or, how is pure physics possible?

3. How is metaphysics possible?

Having committed himself to the theory that the mind has cognitions (in sense-experience, namely) which come from without itself, and which therefore cannot be known from beforehand; and that it also has in itself cognitions independent of these empirical ones, whose office it is to systematize or "form" the latter, Kant should, for consistency, separate the sense-object from its independent or *a priori* setting. But we soon learn that the sense-impression, or *a posteriori* representation, cannot be given without the help of the *a priori*. However, he is not willing to abandon the object given by sense, as distinguished from the object thought by the understanding. So he proceeds, in the Æsthetic, to tell us about the sense-object; while the Logic is intended to explain the action of the understanding upon the sense object which the Æsthetic expounds.

In the Æsthetic we shall expect Kant to prove: 1. That there is *a priori* cognition in what he calls the intuition-object; that is, cognition distinct from, and independent of, sense-cognition. 2. That this *a priori* cognition is intuition—is a process of the sense, and not conception, the process of the understanding. 3. That it is possible, and how it is possible, for space and time, as *a priori* cognitions, to be synthetically united with sense-impres-

sions. 4. That his exposition of space and time shows the possibility of *pure* mathematics as a synthetical science.

II.

REMARKS CONCERNING THE PLAN AND EXECUTION OF THE ÆSTHETIC.

On the assumption that the thing is *yonder*, and that the mind is *here*, with marks or determinations of its own to apply to the thing, it results that the mind needs a receptivity, or faculty of becoming aware of the thing, as well as a power of thinking or determining it. Accordingly, in the beginning of the Æsthetic, Kant attempts, by means of definitions, to adjust the analysis of the object of experience to this view, and to show that even in receptivity there is also spontaneity. It is the spontaneous element in sense itself that forms the special subject of the Æsthetic; and as Kant holds that this spontaneity is wholly comprised in the representations familiarly called space and time, the Æsthetic may be described as the critique of these two representations. In completing this critique, Kant intends (1) to give a "metaphysical" exposition of space and time; (2) to give a "transcendental" exposition of the same; (3) to draw the proper conclusions as to what space and time are and are not; (4) to elucidate his conception of space and time in answer to objections; (5) to state the bearing of the result upon the question, How is synthesis possible *a priori;* (6) to show that his exposition of space and time explains the possibility of mathematics as a synthetical science *a priori.*

As regards the execution of his work, the following defects are noticeable:

1. He has placed a portion of the definition of Sense, namely, external sense and internal sense, under the title of Metaphysical Exposition of Space.

2. He has mingled the transcendental with the metaphysical exposition.

3. The exposition being generally the same for space and time, he would have done better to explain them together.

4. He has proved that the sensuous in cognition is dependent upon the non-sensuous; but he has not proved that the non-sensuous is independent of the sensuous.

5. He has not proved that the non-sensuous (or *a priori*) in intuition is itself intuition, and not conception.

6. His exposition of space and time show them to be the *necessary*, but do not show them to be the *sufficient* ground for the possibility of mathematics as an *a priori* science. To remedy the defects of arrangement—but not the defects of proof—and to bring the form of the work into accordance with the above plan, we will attempt—

III.

RESTATEMENT OF THE ÆSTHETIC.

Definitions.

Things being separate from the mind, it is evident that, in order to have cognition relate *immediately* to them, they must in some way *affect* the mind. Hence, the mind must have a faculty of *receptivity*, whereby it may become aware of things, in order that objects may be produced which the mental spontaneity may *think*, that is, characterize. Accordingly, the "thing-in-itself" affects the *senses*, occasioning what is called a *sensation*. But this sensation is a merely *subjective* affection, and, in order that it may appear as *object*, the faculty of receptivity, which is called SENSE, must have the capacity of receiving *representations* by means of this sensation. And, moreover, these representations cannot appear except in certain media, namely, space and time. A representation so appearing is called an *intuition;* or, more precisely, an *empirical intuition*. Our knowledge, therefore, can relate immediately to things, only by intuition. The product of intuition is the undetermined object, to which the mind affixes marks or determinations by means of the faculty of UNDERSTANDING, thus converting it into a *conception*. There can be no cognition without the united action of sense and understanding. The object, in so far as it is produced by intuition, is called *phenomenon;* and that which sensation contributes to this object, is called its *matter*. But the space and time elements of the intuition-object appear not as sensation, but as that in which the diversity of the matter is made susceptible of arrangement by the understanding; consequently they must be in the mind *a priori*. This *a priori* element is called the *form*. So that an intuition-

object has two elements—matter and form; the one is occasioned from without; the other is originated from within—is spontaneous. The one is *a posteriori;* the other is *a priori.*

The *a priori* element is called *pure* intuition; the word pure being prefixed to the name of any representation to denote that the representation is unmixed with sensation. "Thus, if I take away from our representation of a body all that the understanding thinks as belonging to it, as substance, force, divisibility, etc., and also whatever belongs to sensation, as impenetrability, hardness, color, etc., yet there is still something left us of this empirical intuition, namely extension and shape," and the time in which the sensations occurred. That part of sense by which we represent objects as without us in space, is called external sense, and its process and representation are called external intuition; while that part by which the mind contemplates its internal states as in time, is called internal sense, and its process and representation are called internal intuition.

Having separated space and time from the sensation element of the intuition-object, we will inquire more specifically what they are. First, are they real existences? Or, second, are they relations of things-in-themselves? Or, third, do they belong to the subjective constitution of the mind alone? To answer these questions we will give, first a metaphysical and then a transcendental exposition of space and time. An exposition is metaphysical when it contains a clear, but not necessarily a detailed, account of the characters in the conception as it is given empirically (i. e., to ordinary reflection).

METAPHYSICAL EXPOSITION OF SPACE AND TIME.

1. A general conception is a union of marks or characteristics which the understanding posits as common to many representations. Now space and time cannot be *general* conceptions; for we think all the spaces and times (extents and durations) as limitations of the one space and time; instead of thinking the one space and time as composed from the total aggregation of the extents and durations.

2. Space and time cannot be conceptions of *any* kind. For every conception must be considered as a representation which is contained in an infinite number of possible representations; while the conception itself completely contains no one of this possi-

ble multitude. But space and time are conceived as completely containing an infinity of possible extents and successions. Hence, as space and time are not conceptions, they must be intuitions.

3. Geometry determines the properties of space synthetically, and yet *a priori;* and from the representation of time we derive such propositions as "different times are not co-existent but successive." What must be the representation from which cognitions *a priori* arise? The properties of a conception are deduced analytically, and propositions so deduced go not beyond the conceptions. So that such propositions as "Space has only three dimensions," "Different times are not co-existent but successive," cannot arise from a conception; and as there are only two sorts of knowledge—intuition and conception—the original representations of space and time must be intuitions. And these intuitions must be in the mind anterior to the perception of objects, for no empirical representation carries the conviction of necessity and universality; hence, they must be pure intuitions, and belong to the *form* of sense.

In no other way can we conceive the possibility of geometry as a synthetical *a priori* science; and in no other way could we comprehend change; for example, how the same thing could be in a given place, and then not be in it.

TRANSCENDENTAL EXPOSITION OF SPACE AND TIME.

By a transcendental exposition, Kant means the exposition of a conception as a principle from which cognitions *a priori* may flow; hence it must be shown that they do flow from that principle as explained, and from no other.*

Time and space are not empirical conceptions, but they are necessary representations *a priori;* for we must have the representation of space and time in order to cognize objects as existing *extended* and in the relation of *situation* to each other and ourselves, or as existing *simultaneously* or *successively.*

---

*If a representation is a principle from which synthetical propositions *a priori* flow, it must itself be *a priori*, for there is no universality in mere sensation, upon which to predicate propositions *a priori;* hence, to explain a proposition as a principle, is to explain it as *a priori;* and to show that a conception is *a priori*, is transcendental thinking.

CONCLUSIONS FROM THE FOREGOING CONCEPTIONS, AS TO WHAT SPACE AND TIME ARE.

1. They are not substances, nor properties or relations of substances; for, if they were, they could not be cognized *a priori.*

2. They are only the *forms* of sense; they belong exclusively to the mind.

3. Space is limited to *external* phenomena; but time is a condition *a priori* of *all* phenomena; because all representations (whether the object be external or internal), as mental affections, belong to the internal state.

4. Space and time do not apply to *things-in-themselves*—have no objective validity in reference to them. But space and time have objective validity in *phenomena;* for phenomena belong wholly to the mind; space and time, which are purely subjective and universal, apply to sensation, which is purely subjective and singular.

ELUCIDATION.

The foregoing theory admits that change is real to *us*, so the fact of change is no argument against the ideality of time.

It is evident that space and time are the only elements of the Transcendental Æsthetic, because "all other conceptions appertaining to sense—even that of motion, which unites in itself both elements—presupposes something empirical."

THE RELATION OF THE ÆSTHETIC TO THE MAIN QUESTION.

"We have now completely before us one part of the solution of the general problem of transcendental philosophy, namely, the question, How are synthetical propositions *a priori* possible?" For we find ourselves in possession of pure *a priori* intuitions. These intuitions, we have found, contain cognitions which are not in the given conception, but when these cognitions are thought in a judgment with the given conception, they are thought as necessarily connected with that conception. For example: we have the conception "A straight line," and we write with it the following: "can be drawn between *any* two points." This predicate was not in the conception of straight line, "but is certainly found *a priori* in the intuition which corresponds to the

conception of straight line." As space relates only to that which is "yonder" to the mind, and which (the spaced) is cognized through the senses only, we can form no judgments by means of these pure intuitions, except judgments relating to possible sense objects.

IV.

SOME QUERIES, IN REGARD TO THE ÆSTHETIC.

[An imaginary Dialogue between Kant and his Serious Students].

Students.—When you tell us, Kant, that Subject and Object are two *things;* that the thing must represent itself to the mind as an Undetermined Object, to be characterized by the Understanding,—when you tell us this, what are we to understand?

Kant.—You are to understand that the Undetermined Object is a mere *Datum.* It has no marks like the thing-in-itself, and as yet it has received no character from the mind.

S.—An object without marks! An object without marks is *nothing*—to us. Do you mean to state that the Datum is *nothing?*

K.—Yes. It *would* be nothing without the Form, which belongs to the mind's receptivity. We can receive no representation except as capable of being related in space and time, which belong wholly to sense.

S.—But what *is* this Given-as-capable-of-being-related-in-space-and-time?

K.—It is the unregulated diversity of sensation, which is given through the senses.

S.—We understand now. The *sensations* are the representations that are produced by the exterior object or thing? These are the matter of our cognition?

K.—You are mistaken. The sensations are wholly subjective; they belong exclusively to our internal states. The thing-in-itself is only the *occasion* of the sensation.

S.—But you say the Given, the intuition-object, is solely this. Matter and Form—the matter being sensation, and the form being space and time. This object then, must be wholly from the mind? Neither matter nor form is from without?

K.—That is my position.

S.—How, then, did you find out that a thing-in-itself was the occasion of the object?

University of MICHIGAN

* * * * * * * *

S.—Are we to understand that there are two mutually independent *sorts* of knowledge—the immediate and the mediate—*perception* of object and *thinking* of object?

K.—Certainly; and the object of the Critique is to show how they can be reconciled.

S.—Then, in order to prove that a cognition is *a priori*, it must be proved that it is independent of sensation, must it not?

K.—Yes. It must be made evident that the sensation could not exist without the anterior existence, in the mind, of the *a priori* cognition.

S.—In your exposition you have convinced us that the conceptions of space and time are necessary to the existence of the sensation; but that destroys the independence of the sensation, and we cannot see that you have proved the independence of space and time. Now, we remember that you have stated that there is no cognition of *object*—no *thought*— without reference to sensation; and our own consciousness (so far) confirms that statement. Instead of proving that space and time are *a priori* in the sense of being independent and necessary, have you not proved that there is no immediacy without mediation, and no mediation without immediacy?—that the distinction between the two is, that the one is individual, the other universal, while both are of the mind, and both necessary?

* * * * * * * * * *

S.—We understand you to state that every conception must be considered as a representation which is contained in an infinite number of possible representations; while the conception itself completely contains no one of this possible multitude.

K.—I do so state.

S.—Space and time are contained in an infinite number of possible representations, are they not?

K.—Yes. But the extents and durations are also completely contained in space and time; in which respect they are unlike conceptions. And they are like intuitions in each being *one* and *only*. For an intuition is a representation that can be given only by a single object.

S.—Does not an extent or a duration contain *negation* of space or time, as well as contain space or time?

K.—Yes.

S.—Then the spaces and times (extents and durations) are *not*

completely contained in space and time: for the spaces and times contain negation—they contain some quantity of some quality, necessarily, actually, or contingently related, do they not? So that, after all, they do have, in this respect, the character of conceptions. And as to their being like an intuition in being *one*—an intuition's peculiarity is, that it is not contained in a multitude of representations; but space and time *are* so contained. Space and time are each one, as quantity is one. And as you say space and time, being capable of containing an infinity of extents and durations, cannot be fully represented in an extent or duration, and hence their full representation must be an intuition; so we might say (might we not?)—Quantity, being capable of containing an infinity of quantities, could not be fully expressed in a conception; hence, quantity must be an intuition?

* * * * * * * *

S.—We would like to know how it is possible for space and time, as pure *a priori* cognitions, to be united with sensation?

K.—Sensation being subjective, and space and time also of the mind, and both being necessary to intuition, there arises no rational difficulty to their union.

S.—But this destroys their independence in the cognition of *object*. So that we must not say they are cognitions, but only elements of cognition;—unless there is a knowledge which is not knowledge of object.

* * * * * * * *

S.—Do you hold that the pure intuitions of space and time are the *sufficient* ground for Pure Mathematics?

K.—Yes. For example: when, in a judgment *a priori* in geometry, we pass out beyond the given conception, we find something which is not discoverable in that conception, but which is certainly found in the intuition which corresponds with the conception.

S.—But if we find something in the intuition mentioned, how can we get it out without the Categories? How else can we produce mathematical science *a priori* from the intuition? And if the categories *must* be used, then shall we not be obliged to say that you have proved that space and time are the *necessary*, but not the *sufficient* ground of Pure Mathematics?

* * * * * * * *

S.—We thought you based the distinction between what you called *a priori* and *a posteriori* upon the fact that one was from

the nature of the mind, and the other was an impression from the thing. But now we find that you say both are of the mind. Where, then, is the propriety of the names? Wherein is the distinction?

K.—The distinction is this: the *a posteriori* knowledge begins with experience, so far as time is concerned; there is no knowing anything about the sensation until you have it; hence, it must be *individual*. But the *a priori* knowledge is that which lies ready in the mind anterior to all perception of objects; and, being a potentiality of the mind, in which all the sensations of all individual minds are related, is universal.

S.—We thought it a good saying of yours, that, "in respect of *time*, no knowledge of ours is antecedent to experience, but all begins with it." What, then, do you mean by saying we have knowledge "anterior" to, and independent of experience; that is, know before we know? What can *potentiality* of knowing mean but that there is Absolute Mind which manifests itself in us in time? It seems to us that, as individual minds, we know only what we have experienced, whether it be what you call individual or what you call universal; and that your *a priori* knowledge, as *a priori*, means (if it means anything) that which is in the Universal or Divine Mind. As regards the individual mind, the *a priori* is nothing until it is experienced. The *a priori*, then, belongs not to *human* reason, but to REASON, to GOD. And, if so, then we know absolute reality.

* * * * * * * *

S.—When our instruction from you began, we thought the query was,—How attributes from the human mind could be applied to an object given from without. But now, when we have discovered that object and attribute both, are of the mind, and that neither is anything without the other, we are at a loss to know why the investigation in regard to synthesis should proceed further.

* * * * * * * *

S.—You say there are two general sources of knowledge—Sense and Understanding. Will you please tell us to which of these belongs the act by which we discover that which is unconditioned by space and time—the *a priori*? It does not seem as if it can be Sense, for all the sense-cognitions are conditioned by space and time. It cannot be understanding, for that gives no

object, but only the form in which objects are to be cognized when given. There is, then, a *third* source, which is the secret of all?

ANTHROPOLOGY.*

Translated from the German of Immanuel Kant by A. E. Kroeger.

PART FIRST—ANTHROPOLOGICAL DIDACTIC.

Concerning the Manner in which to Recognize the Internal as well as the External of Man.

BOOK FIRST.

Concerning the Faculty of Cognition.—General Remarks Concerning our External Senses.

§19. We can divide the sensations of our external senses into those of mechanical and those of chemical origin. To the former class belong the three higher, to the latter the two lower senses. The former are senses of perception (superficial), the latter are senses of enjoyment (intense appropriation). This is the reason why nausea, an inclination to relieve ourselves of what we have eat or drunk by the shortest way of the esophagus, that is, to vomit, has been given to man as a vital sensation of unusual degree; since so intense an appropriation might become dangerous to the animal.

But since there exists also a spiritual enjoyment, which results from the communication of thoughts, and which, when forced upon us and is not healthy for us as spiritual food, but found to be disagreeable—as, for instance, a repetition of the same witty or supposed to be witty sayings—and which may, therefore, also become unwholesome to us on account of that very sameness: we call the instinct of nature to get rid of this spiritual food, also nausea, for the sake of analogy; although it belongs to the internal sense.

---

*[Continued from Volume X., page 319].

Smelling is, as it were, a tasting in the distance, and forces others to partake, whether they will or not. Hence it is, as being opposed to freedom, less social than tasting, which allows each guest to choose according to his inclination, amongst a variety of dishes or bottles, without compelling others to partake of his choice. Dirt is called nauseating, apparently not because it is disgusting to the eye or tongue, but because it is presumptively supposed to arouse nausea. For our appropriation of external things through our sense of smelling (in the lungs) is still more intense than that which occurs through the imbibing membranes of the mouth or throat.

The more intensely our senses feel themselves *affected*—under the same degree of the influence exerted upon them—the less do they *teach* us. *Vice versa:* if they are to teach us much, they must affect us only moderately. In the strongest light we see (distinguish) nothing; and a stentorian voice *deafens* (suppresses our thinking).

The more receptive our vital sense is to impressions (tender and affected), the more unhappy are we; and the more receptive a man is to the organic sense (sensitive), and hardened against the vital sense, the more happy—I say happy, and not exactly morally better—is he; since he has the feeling of his well being more in his power. That sensitive faculty which arises from *strength* (*sensibilitas sthenica*) we may call gentle sensitiveness; but that which arises from *weakness*, from a not being able sufficiently to resist the impression of our senses in their effort to penetrate into our consciousness, we must call *painful* sensitiveness.

QUESTIONS.

§20. Which organic sense is the most ungrateful and also the least useful? That of smelling. It does not pay to cultivate, or perhaps even to refine it; for there are more objects of nausea—especially in populous places—than of enjoyment, which the sense can procure us, and our enjoyment through this sense can at the best be only fleeting and temporary, if it is to give us pleasure. But as a negative condition of our well-doing, to escape inhaling unwholesome air (the exhalations of stoves, or of swamps or of dead animals) or not to use mouldy materials for our food, the sense is not unimportant. The same importance be-

longs also to the second sense of enjoyment, the sense of tasting. But this sense has a peculiar preference in that it promotes sociability in its enjoyment, which the sense of smelling does not; and furthermore in that it judges in advance at the very door of the entrance of our food into the intestines, concerning the wholesomeness of that food; since tastefulness of food is pretty sure to indicate its wholesomeness, unless gluttony has spoiled taste by too much artificial refinement. The appetite of the sick generally longs for that which, like medicine, works to their benefit. The smell of food is as it were a foretaste; it invites the hungry to partake of favorite dishes, just as it repels those who are sated.

Is there a vicariousness of the senses, whereby the use of one sense can represent that of another? We can coax the deaf to accustomed speech by gestures; that is, by the use of their eyes; —provided they have ever been able to hear—or by observing the motion of their lips, and even by merely touching their moving lips in darkness. If they have been *born* deaf, however, we must change the sense of *seeing*—which we do in the former case from the movement of the organs of speech—from the sounds produced, into a *feeling* of the movement of the vocal organs themselves. But they will never thereby arrive at actual conceptions, since the signs, which they need for that purpose, cannot be made universal. The lack of a musical ear, in cases wherein the mere physical ear is uninjured, and in which cases a man is able enough to hear sounds but not tones, to speak but not to sing—is a deformity which it is difficult to explain. In the same way we have men who can see well enough, but cannot distinguish colors; and to whom all things appear, therefore, as in an engraving.

The lack or loss of which sense is most important to us—the sense of hearing or of seeing? If the first named sense were inborn it would be the least dispensable of all senses; but if it is only the result of cultivation, through the use of the eyes, as has been explained, the loss of it may be in some way replaced through sight; especially if the sufferer is wealthy. But persons who have grown deaf in old age, miss this means of communication very much; and while we see many blind people who are communicative, social and gay at the table, it is a rare thing to find a single person who has lost his hearing, otherwise than cross, suspicious, and dissatisfied in society. He sees in the

features of the company present certain expressions of feeling, or at least of interest, and endeavors in vain to discover their meaning, whereby he is really condemned to solitude in the midst of society.

§21. It is further to be observed that we class among the two latter senses (which are more subjective than objective), a sensitiveness in regard to certain objects of external sensuous perceptions, which have this peculiarity, that they are merely subjective and work upon the organs of smelling and tasting by means of a stimulation, which is nevertheless neither smell nor taste, but felt only as the effect of certain fixed salts, that prompt the organs to specific expurgations. Hence these objects are not internally appropriated by our organs, and actually enjoyed. They merely touch our organs and are soon after removed; but for that very reason they can be used the whole day long (eating and sleeping time excepted) without bringing about satiety. Their most common material is tobacco, whether it be by snuffing it, or putting it into the mouth between the cheek and the gums, in order to stimulate the secretion of saliva, or by smoking it through pipe-stems—as even the Spanish women of Lima smoke their cigars.

The Malays use for the latter purpose the areka nut, wrapped up in a betel leaf, and which has the same effect as tobacco.

This longing (*pica*) is to be regarded—apart from the medical good or harm which the clearing out of the fluid elements from both organs may effct—as a mere stimulation of sensuous feeling in general. It is, as it were, an oft repeated impulse acting on our recollection, to attend to our thoughts, which would otherwise fall asleep, or become tedious through uniformity and sameness. This means of self-entertainment on the part of man replaces society, since it fills the emptiness of time, instead of conversation, by ever newly aroused sensations and very transitory but always rejuvenated stimulations.

CONCERNING THE INTERNAL SENSE.

§22. The internal sense is not pure apperception, or a consciousness of what man *does*—for this belongs to the thinking faculty—but of what is felt by man, in so far as he is affected by his own play of thoughts! It is based upon man's internal contemplation, and hence upon the relation of our representations in

time—as they appear therein either simultaneously or in a successive order. The perceptions of this internal sense and the true or seeming internal experience which results from their combination is not merely *anthropological*—where we disregard the question whether man has a soul (a special incorporeal substance) or not—but *pathological*—where we believe that we perceive such a soul, and where we regard the mere faculty to think and feel as a special substance, inherent in man.

From this standpoint there is, of course, only one internal sense, since man does not feel himself internally through different organs; and one might say that the soul is the organ of the internal sense. In this case we say of it, that it is subject to illusions, which consist in this, that we either take its appearances to be external appearances (thus confounding illusions with actual sensations); or, still worse, hold them to be manifestations of another being, of which we nevertheless have no external perception, in which case the illusion turns either into visionary dreaming or into ghost seeing, both of which conditions are a cheating of the internal sense. Both cases rest on a malady of the soul: a longing to accept the play of the perceptions of the internal sense for experimental knowledge, whereas it is simply fiction; and often also a desire to plunge into an artificial mental condition—perhaps because we consider it wholesome, and elevating us over the commonness and lowness of sensuous perceptions—and thus to cheat ourselves afterward by fancies formed in accordance with that artificial condition—(to dream when wide awake). For in the course of time man comes to consider that which he has purposely planted in his mind, as something which has existed previously in his mind, and believes that he has discovered in the depths of his soul the very thoughts or fancies which are forced upon him.

This was the case with the visionary charming fancies of a BOURIGNON, or the visionary terrifying fancies of a PASCAL. This dissonance of the mind cannot very well be put to rights again by rational arguments—for what can these effect against matters believed to be actual? The tendency to become absorbed in or turned in upon one's self, together with the illusions of the internal sense arising therefrom, can be brought into order only by leading man back into the external world and thereby into the order of things, which lies before our external senses.

CONCERNING THE CAUSES OF THE DECREASE OR INCREASE OF OUR SENSUOUS PERCEPTIONS IN DEGREE.

§23. Our sensuous perceptions are increased in degree, 1, by contrast; 2, by novelty; 3, by change, and 4, by intensification.

Contrast.—Contrast is the putting aside of each other, under one and the same conception, sensuous representations which are averse to each other; whereby our attention is called into play. It is thus distinguished from contradiction, which is the connecting of two opposite conceptions. A well-cultivated piece of land in a desert elevates our perception of the former by the mere contrast. The noise and splendor of a court, or be it only of a large city, when compared with the quiet, simple, and yet contented life of a farmer; or a house with a thatched roof, but its rooms commodious and tasteful: such contrasts delight our eye; and we love to linger over them, since they strengthen our senses.

Poverty and haughtiness, however; or the gorgeous jewelry of a lady. whose washing is none of the cleanest; or, as in the case of a late Polish noble, tables groaning under luxuries and served by numerous waiters, wearing wooden shoes; such things are not in contrast but in contradiction to each other, and one sensuous perception destroys or weakens the other, because it tries to unite opposites under one and the same conception; and this is impossible.

Still there is also a way of effecting a comic contrast, and of uttering an evident contradiction with the *tone* of truth, or placing before an audience something evidently contemptible in the language of praise, for the sole purpose of making the absurdity more deeply felt—as, for instance, FIELDING in *Jonathan Wild*, or BLUMAUER in his travestied *Æneid*—and thus for example, to make a jolly parody of a heart-breaking novel like *Clarissa*, with a view of strengthening the senses by freeing them from conflicts, wherein false and dangerous conceptions have involved them.

Novelty.—The new, which includes the rare and the hitherto concealed, revives attention, because it involves a further acquisition; hence our sensuous perception increases by it in strength, whereas everyday, habitual occurrences deaden attention. This does not include, however, the discovery, inspection or public exhibition of subjects of antiquity—such as we might have supposed,

according to the natural course of things, to have long since been destroyed by the tooth of time. To sit upon a piece of the wall of an old Roman theatre (in Verona or Nismes), to have under one's hands the house-furniture of that people, discovered after so many years in Herculaneum from under the lava which had buried it, to be able to exhibit a coin of the Macedonian kings, or a gem of ancient sculpture, &c.: all this arouses the senses of a *connoisseur* to profound attention. An inclination to acquire some knowledge, merely on account of its novelty, variety, and hidden qualities, is called *curiosity*. This inclination, although it merely plays with perceptions, and has otherwise no interest in its object, deserves no censure, provided it is not extended to spying out matters which are of interest only to others. But so far as the mere sensuous impression is concerned, each morning comes to us new, and by the newness of its sensations makes all the images of our senses (unless the latter are really sickly) clearer and more vivid, than they usually are in the morning.

Change.—Monotony—a perfect sameness in our sensations—results at the end in their *atony* (a growing tired on the part of our attentiveness to its condition) and then our sensuous perception grows dim. Change refreshes our senses, but a sermon read off in the self-same tone, whether shrieking or moderate, puts a whole congregation to sleep. Work and rest, city and country life; in our social intercourse, conversation and play; in solitude amusement, whether by means of novels or poetry, or philosophy and mathematics: such changes strengthen the mind. It is the same vital force which stirs the consciousness of our sensations, but its various organs relieve each other in their activity. Hence it is easier to converse for some time while *walking*, since the muscles of the leg, in this case, take rest one after the other, than to remain standing stiff in one and the same place, in which case the muscles have to work without rest for a while. Hence also does it happen that traveling has so great a charm; it is a pity however, that with people of leisure it leaves a blank (atony) behind, as the result of the monotony of home life.

It is true that nature herself has ordered things already beforehand in such a manner, that pain enters uncalled between pleasurable sensations, such as entertain the senses, and by this entrance makes life interesting. But to allow pain purposely to intervene merely for the sake of change, and thus to hurt one's self, to have ourselves waked up merely to feel the pleasure of

renewed dropping off to sleep, or, as in Fielding's novel, "Tom Jones," where the publisher of that book added a final part to it after the author's death, to introduce, for the sake of variety, the element of jealousy after the wedding (wherewith that novel originally closed) is absurd; for to make a state of things worse than it is does not increase the interest which the senses take in it, even in a tragedy. For an ending is not variety.

Intensification to a Climax. — A continuous series of successive sensuous perceptions, which differ in degree, and of which the succeeding one is always more intense than the one preceding, has a maximum of intensity (*intensio*), to approach which is reviving, whereas to pass beyond it is exhausting (*remissio*). But the point which separates both conditions, is the completion (*maximum*) of the sensation, and is followed as its result, by impassivity and hence lifelessness.

If we desire to keep our sensuous faculty alive, we must not begin with strong sensations—for they make us insensitive to those that follow—but rather deprive ourselves of them at first, or take them in short measure, in order to be able to ascend always higher. The preacher begins in his introduction with a cool exposition addressed to the understanding, which points to the taking to heart of a conception of duty, and afterwards introduces into the analysis of his text a moral interest, finishing in the application with exciting all the motives of a human soul through all the sensations, which can give emphasis to that interest.

Young man! deprive thyself of the satisfaction of thy senses—gayety, luxury, love, &c.—though thou doest it not with the stoical purpose of becoming able to do without them, but with the refined Epicurean purpose of having constantly in view an ever-increasing enjoyment. This stinginess in regard to the capital of thy vital senses, makes thee truly richer through the postponement of enjoyment, even though thou shouldst have renounced the use thereof, for the greatest part, at the end of thy life. The consciousness of having the enjoyment in thy power is, like all that is ideal, more fruitful and far-reaching than all that which satisfies the senses, and which by thus being itself used up at the same time with that satisfaction, is taken off from the sum of the whole.

NOTES AND DISCUSSIONS.

The Relationship of Politeness, Justice, and Religion.

The relation of man to man is three-fold, and may be considered as politeness, justice and love—the latter being also expressed by charity, kindness, or religion. It may not be amiss to seek a profounder reason than any we are accustomed to associate with the ordinary use of these words, and to clear up our beliefs on these fundamental subjects, by considering the real nature of these three ideas. We shall find that they each have a different standpoint from which the duty of man to man is regarded.

Politeness looks at man wholly from the ideal side, and is the expression of what is due the ideal man, not the expression of any one man's opinion of his fellow man. It consists of conventional forms which are its laws as agreed upon by society. Politeness then recognizes no shortcomings, is responsible for none. Within its limits it looks upon all men as equally noble, and ironically supposes that the ideal and real are one and the same in every individual, and treats him accordingly. Politeness has no moral quality beyond the obligation to know and use the forms which are accepted in the society in which one lives. To many an honest soul there seems, in treating all men with equal courtesy, to be something akin to a kind of unfairness which he would like to rectify if he could. From this view rudeness and plain speaking, that much be-praised vulgarity, have the air of virtues. But at the bottom of this feeling there is a misapprehension of the limits of courtesy. Politeness does not demand that we shall treat all alike, the common acquaintance as cordially as the dearest friend, nor are we called upon to indicate in our manners our private opinions of the people whom we meet. It is a mistake to suppose that politeness requires the obliteration of all differences in esteem and affection; it but recognizes certain conventionalities of behavior as due from man as man to the ideal whom it supposes in every man. These conventionalities are not a matter of honesty or dishonesty, but are the forms of ideal behavior of ideal men.

But to be polite, although an important, is by no means the whole duty of man. Justice is broader because it sees both the ideal and real man. It does not refuse to see the defects, but on the contrary takes full account of them. The peculiarity of the standpoint of justice is that it also recognizes responsibility. It says to every man, "You ought to be this, the ideal, but in fact you are thus, that is full of faults," and justice holds him responsible for the difference. It says, "You are a free agent, these sins of yours are the result of your own free choice." Justice is blind only to the weakness of human nature and takes no account of temptation, but looks upon every man as absolutely responsible for his deeds, as if it were really pos-

sible for him to be the ideal man. Hence justice consistently returns "the deed to the doer." Natural justice, or rather the justice of nature gives him back the consequences, if he breaks natural laws. Put your hand in the fire and it will burn, no matter how innocent you are. The institutions of human justice are not so stern, but they have the same principle at bottom. The law recognizes no extenuating circumstances but tries the criminal on the facts of his action, condemns him to what it considers an equivalent punishment upon the presumption that he is a free agent, and holds him responsible for his choice. After justice is satisfied his fellow man may then recommend mercy, the governor may pardon, but this is the kindness of individuals, the State as State cannot change its sentence. It is this recognition of weakness in the provision for pardon which marks the difference between man's justice and the inexorable justice of nature.

It is evident from this view that justice is the right of authority, but not the right of man to man. The punishment of individual by individual cannot be allowed, because from its nature such punishment would have a personal element in it. Divested of this personal end and administered by the State, punishment is justice, otherwise it is only vengeance. Man must not be allowed to avenge his injuries, but must seek redress through the law which takes away the personal element entirely and elevates his injury to the dignity of a violation of abstract right.

Love is both broader and higher than either justice or politeness. Like the one it recognizes the ideal, like the other it sees in contrast the real man, but unlike either its only desire is to cure and make whole. The divine love offers pardon with tender recognition of the weakness of the human nature as well as the strength of the god-like nature in man. Justice recognizes no restoration to harmony with broken law and demands full expiation. Religion, which is the relation of man to God, consoles the suffering and forgives the sinner. Repentance restores the fallen soul to purity, although it does not take away the just consequences of sin. The words "reconciliation to God" have this precious meaning, and religion offers the only reconciliation.

Human charity recognizes the brotherhood of man no matter how fallen from its high estate, disguised in sin and misfortune. Its charitable institutions are the glory of the modern world. The more civilized and prosperous a community, the more generous its recognition of the claims of poverty, sickness, and suffering of all kinds. Society is emulating the divine love and "blessing them which hate and despitefully use it" when it makes its prisons to be reformatory institutions. In providing a refuge for the old and infirm it is Christ-like, saying "come unto me all ye who are heavy laden and I will give you rest." Religion, the love of man for God, and charity, the love of man for man, are the highest forms of the spiritual life which Christ taught when he said: A new law bring I unto you, that ye love God with all your soul, and your neighbor as yourself.

St. Louis, April, 1877. E. S. M.

Polarity in Character: A Study of the Sex of Mind.

"In all thy ways acknowledge Him, and He shall direct thy paths."—[Prov. iii., 6.

"Since instructions are many, hold close unto those whereon the rest depend. So may we have all in a few, and the law and the prophets in a rule."—[Sir Thomas Browne.

I. OCCASION.

Synopsis of Sect. I.—*1. Inadequacy of Art, even in the Province of Language. 2. Human Intelligence Subject to the Law of Evolution, save in the primary discrimination between Nature and Grace. 3. The Light of the Supernatural not precluded nor superseded by Evolution in Intelligence. 4. The seeming Competition and actual Subserviency of the Natural. 5. Origin of Pantheism in a too exclusive appreciation of the Natural. 6. Wanted, a Clue in Nature leading or pointing beyond Nature. 7. Universal Polarity.*

1. Of all arts, the Art Literary, as the most comprehensive, and therefore the most nearly convertible and synonymous with the whole of human life, is the most potent either to save or to kill, according as it may find its rule and its goal, its overture and its response, in the supersensual and progressive, or in the merely sensual and retrospective. Here, as everywhere, faithful labor must pioneer clear perception, and the "much wisdom" still be found to involve the "much grief." Until Art and Nature shall coalesce in that "Eternal Now" which is but a ready name for the mystical harmony* of the Divine and the human, there must be some vestige in even the best works of even literary art, of the "violence" by which the kingdom of heaven is still taken in them. The most symmetrical and spirited product of mind must retain some trace of mysticism, or in other words (to adopt the perhaps only adequate metaphor) must continue to be marked by some umbilical breach of continuity which may serve "as a sign to be spoken against" by cavilling critics, and as a fresh stimulus of suggestion to earnest inquirers, until the exposure of the last root of confusion shall supersede the as yet inevitable after-birth in all the parturition of thought. On "this disadvantage in writing," which, he avers, "brings it into exact analogy with painting," Plato, in the "Phædrus," thus comments: "When once reduced to the written letter, every discourse is tossed about everywhere, in the hands alike of the competent and of those who have no business with it, and cannot tell who ought to read it and who not. And when disparaged and wrongfully reproached, it always needs its father to help it, for it cannot help itself."

2. Even in the realm of intellect is "the kingdom" of heaven "as

*"From the days of John the Baptist until now, the kingdom of heaven suffereth violence, and the violent take it by force."—[Matt. xi., 12.

a grain of mustard seed." The fact that the intuitional element of truth is itself a subject of development, which must, throughout the term of man's education in self-knowledge, be overshadowed by the traditional and rivalled by the inferential, sufficiently explains the stubbornness of the *a priori vs. a posteriori* "conflict of the ages." Pending the attainment of self-knowledge, progress in all knowledge must be spasmodic and intermittent, from its necessary vibration between tradition and spontaneity, between retrospection and aspiration, between induction and deduction. It is the one unhappy feature of this tentative rule of tradition, retrospection and induction, that its transitional nature ensures disappointment to those who look to it for permanency. In all class distinctions which may be based upon any secondary principle, there must be some such overlapping and mutual masking of the compared or contrasted elements, as shall at last make those distinctions futile except for the demonstration of their own inadequacy. This observation especially applies to all the fresh emergencies of individual experience—to all the closely scanned though variously viewed and generally "little" things of which common life is made up. Here especially it is found that that most mystical distinction of Nature and Grace is after all the most universal, and continually sets at defiance, by its comparative self-evidence and accessibility, our conventional decisions and logical judgments. Grace and Nature are the manifest centres of two opposing aspects of human life. How those radical and most real elements of thought and activity occupy and qualify the more formal developments of principle and practice, therefore becomes a question of primary interest in all considerations of order and progress.

3. This question is substantially an old one. It necessarily underlies all formal or verbal teaching of "the issues of life," which does not, with the Aristotelian, stop short in the comparatively superficial region of intellect by violently making "form" synonymous with "force." It lurks in the precept of Solomon, "The desire of a man is his kindness," and in that of the "Greater than Solomon," "He that is faithful in that which is least is faithful also in much, and he that is unjust in the least is unjust also in much." It is present in the aphorism of Penn, "The great man's actions are all of a piece"; and it is rather expanded than answered in the oracular utterance of Goethe: "To the narrow mind whatsoever it attempts is still a trade; to the higher, an art; and the highest, in doing one thing does all; or, to speak with less paradox, in the one thing which it does rightly, it sees the likeness of all which is done rightly." It is a question which, perhaps, can only be fairly met or even approximately answered in the fresh flowings of the spirit which led one* of the most

*RICHARD ROTHE, fellow-worker and counsellor of BUNSEN, author of "Theological Ethics," "Limitations of Divine Foreknowledge," "Lectures on Church History," &c.; for notices of whose life or writings the general reader

earnest and distinguished, and yet confessedly one of the most groping of recent investigators, to postulate that "things, to the same degree in which they are material, are not real, not actual."

4. They who truly honor the Bible as a hand-book of common life, will attach no isolated interest even to classifications which may seem to rest primarily on its authority. The scriptural mystery of essential opposition† and incidental union between the church and the world, is doubtless one not only with the as yet also unfathomed relationship subsisting between the supernatural (Jno. iii., 3; ἄνωθεν, from above) and the natural births in the individual man, but also, through the separate development of each in the fragmentary thought and experience of mankind, with that between religion and science in general. When therefore we find, as we do find, the race for influence between religion and science in all their departments, as evenly maintained, to all mere natural perception, as might be presumed to be the case in an imaginary competition between the North and South poles of our planet for precedence in the direction of its revolutions, the believer in the supernatural may not unreasonably inquire whether a like mystical (i. e., an *a posteriori*, or by statistical induction, inappreciable) influence may not in each case alike exist, giving validity to some scriptural metaphors on the dignity and energy of "the North."

5. Universal inferences can indeed never be drawn from incomplete data; and so a final doctrine of human nature can never be drawn from any incomplete history of the race. But the general tenor of the most complete attainable evidence in any sort of investigation, must be allowed to furnish indications which may well be condescended to, even by those who may possibly possess a higher clew or key of truth than the merely statistical, in consideration for those who do not; and on this ground, if on this alone, it is incumbent on

---

may be referred to excellent articles in the *Bibliotheca Sacra* (Andover, Mass.), Vols. 31 and 32, by Dr. Samuel Osgood of New York, and Prof. J. P. Lacroix of Ohio, and in the *British Quarterly Review*, Vol. 58.

Our author's position as above quoted, though indeed paradoxical, may be seen to be free from the Berkeleyan extravagance of questioning the reality of the outer world. For it should be observed that he recognizes degrees of materiality; and certainly in proportion to the outward bias of individual life and character, will the material phase in all things predominate. This *seeming* materiality (he does not say, "in proportion as they *seem* material, they are not real," &c.) he would doubtless recognize as an external reality, and as the ground of a current or social experience to all "common-sense," and to all communicable science. But this subject could not be exhaustively considered without reference to the continuity of the creative act in all creaturely existence and thinking, suggestions of which appear to exist in the works of Prof. Rothe, but about which the present writer may more conveniently refer to an article on "Subject and Object, or Universal Polarity," in the St. Louis *Journal of Speculative Philosophy*, Vol. VIII., p. 103.

†"The prince of this world cometh, and hath nothing in me."—[John xiv., 30.

all observant inquirers to recognize religion in some form as one of the universal necessities of manhood. However conceivable, or however inconceivable to us may be the manner of its introduction among mankind, the existence of religion, and the various history of its varying forms, must remain to be legitimate topics of observation, inquiry, and probable inference. It thus becomes a matter of ready observation and plausible inference, not only to all who believe in a supernatural rule and a regenerate life, but to all who can for a moment conceive of them, that Pantheism is a form of religion which, notwithstanding its element of falsehood, has by experience been proved necessary to mankind in their unregenerate nature, in direct proportion to the extent of their knowledge and the degree of their intelligence. The more advanced this intelligence, the more clearly must they see that the best literal code when made an ultimate criterion of duty, can but substitute for the rule of sensual indulgence an equally capricious though less grovelling polytheism of intellectual principles. The very "law of parsimony," or intellectual simplicity, thus naturally tends when not subordinated to the religion of the cross, to a headlong anticipation of the "new heavens and the new earth," in whose provision and conduct no positive power of evil can ever have the most secret finger of influence. Such, essentially, is the pretension of Pantheism. As, then, the very possibility of a gospel, or the whole social efficacy of Christianity, lies in the qualification of its messengers condescendingly to adapt its glad tidings (more or less intelligently [I. Jno., i., 1.] on their own part, and more or less mystically to benighted hearers), to otherwise irremediable and necessary error, it is evident that a true religion must vindicate its supernatural authenticity by furnishing some more or less mystical antidote,—some faintly conceivable but growingly acceptable substitute, even for the crowning delusion of Pantheism.

6. The controverters of this seductive heresy have perhaps not sufficiently insisted on the difference between the undeniable omnipresence of the Deity, and his unqualified universality, nor on the absurdity incurred by the Pantheist, in assuming the latter, of identifying concord with discord. The hopelessness of such a position should surely dispose the thinker on either side to look favorably on any hypothesis, however obscure, which may possibly represent that "knowledge in the distance" which by its very distance is "necessarily mystical," and whose primary obscurity may be but one phase of that "expression of the infinite" on which our great cotemporary expounder of art in its ethical relations so loves to dwell. Observing, then, that omnipresence, or even universal supremacy, is not synonymous with universal power,—that the "all power in heaven and in earth" does not include all power in hell, but rather the triumph of heaven over hell in the only disputed realm; and that even in the use of such terms as omnipotence (2 Cor., vi., 18) and destruction (2 Th., ii., 8)"the letter" may "kill," when allowed to interfere with the establishment or pursuit of a truly consistent and God-glorifying system of doctrine, it certainly becomes us to be open to the best at-

tainable hypothesis upon which the omnipresence of God may imply his universal supremacy and progressive control, without dogmatically asserting his universal power.

7. In some subsequent allusions of the present essay, and throughout these, its first-placed but last-written paragraphs, the writer has had in view some such provisional and confessedly mystical hypothesis, in the conception of a principle of universal polarity as a fundamental fact both of matter and of mind, and a substitute, as already intimated, for the heresy of Pantheism or universal Deity. Alike in atoms, and in planets, and in suns,—in the spiritual substance of conscious beings and in the organic frame of unconscious automata, he conceives an axis of real or quasi-individuality* and of more or less definite revolution and progress, whose upper and nether poles may be in some way connected with the subordination and completion of the opposing spiritual influences which the best tradition, if not also the best living sentiment, represents as pervading the creation as at present constituted. In what follows he only attempts to discuss this presumed polarity as traceable in human character, having thus referred to its external manifestations only from a necessary regard to the now established principle, that communicable doctrine and conveying language can progress only so far and so fast as the phenomena of the outer world are found to furnish analogies for the symbolic expression of those of the inner. [Part second of this discussion is postponed until the next number.—Ed.].

Philadelphia, June, 1877. RICHARD RANDOLPH.

Dr. Porter on Final Cause, An Intelligent Power.

The attempt has been made to show that intuitively there is a want of the soul, evidencing a consciousness of the existence of an Omnipotent Power, (1) and that—given the fact that the animal has self-consciousness—the only being that is capable of accomplishing the destiny of man is the human being, known and recognized as such. (2). Now the inquiry is made—given the Darwinian hypothesis, evolution, transcendental philosophy for all it is worth—whether there is not demonstrative evidence—as demonstrative as Huxley's criterion would require the same, and more so than as he applies it—(3) of the existence of a final cause, and, incidentally, whether the power Omnipotent is not an intelligent power.

*See article "Possibilities," (on the universal symbolism of nature, &c.) in the New Haven "College Courant," March 29th, 1873.

Real individuality and sexuality seem to begin and end together. But it can not be doubted that if there be indeed a universal principle of polarity in the inorganic creation, it must be fundamentally related to the only principles which are equally universal in the organic.

(1). "The Want of the Soul."

(2). "Have the Lower Creation self-consciousness?"

(3). See the first of three lectures delivered in New York on Evolution.

Darwin's labors have been largely devoted to arguing and maintaining the hypothesis of natural selection and heredity among flora and fauna, that is, showing that according to the existing evidences of birth and growth among living flora and fauna, and of extinct flora and fauna—as disclosed by the crust of the earth and by specimens of fossils, etc.—existing flora and fauna are the natural descendants of formerly existing flora and fauna, which in their turn descended from a form or from forms of force that in its original condition may or may not have been a mass of incandescent heat, comprehending the elements that compose our chemistry, etc. A condition that with evolution may with lapse of time have developed *inter alia* into gelatinous substance, protoplasm, etc.; and, finally, into those beings that were a *sine qua non* to man.

If we in childhood contract a habit, say of being stoop-shouldered, and retain the habit without change, after we arrive at maturity the bones of the body will be found to have contracted a change of form hardly capable of being remedied; we know "that the sooner we break ourselves of a habit, the easier it is to break." If some defect of body or mind is found in the parent and repeated in the offspring, we are satisfied that this defect descended from the parent; or, if some defect, as insanity, is found in John which is not found in parent or grand-parent, but is found in great-grand-parent and uncle, we say it has descended. We know that if we change our place of abode from a northern to a southern clime, or from among civilized people to barbarians, and live in the changed environment sufficiently long, our habits of life, our disposition and condition of mind—upon which depend very greatly our anatomy and physiology, so to say—will undergo a permanent alteration. Like ourselves we are satisfied that other species or varieties of mammalia—yes, of the animal creation—exhibit the process of labor and generation, that the habits and the bodily structure may change with changed conditions, that traits exhibited in the parent and child are descended, &c., &c. Then we believe in heredity and natural selection as expounded by Darwin. It is true that Darwin has endeavored to trace the genealogy, in natural history, of man, and that he dates man's origin from some remote animal that was alike the common ancestor of man and the monkey. Concerning the correctness of this, a great deal may be said pro and con. The most we are authorized to say is that man descended from some animal whose nature and habits are not known. We are, however, not concerned to inquire particularly as to the actual progenitor of man. With his theory of natural selection, etc., —which after all is an application of the doctrine and principles of evolution—chemistry, geology, and astronomy are in accord. Now the question may be asked, is this theory antagonistic—as Oscar Schmidt would have us believe—to the belief in God? To the belief in a Supreme Power of infinite intelligence and power?

Let the question be answered by conceding all that the Darwinian theory, so-called; or, rather, the theory of evolution—the Spencerian theory—claims.

The theory of evolution claims that the anatomy, physiology and mind of man are adapted to one another—and it becomes eloquent in praises—; so beautifully, so exquisitely it claims are these arranged, that should there be an interference in one small particular the harmony of the whole will be disturbed, if not destroyed. The arrangement exhibited in the anatomy, physiology, morphology, and embryology of the different species of flora and fauna, and the evidence of descent, heredity and natural selection made manifest thereby, show a beautiful order. The principles by means of which geology discovers and explains the age of the earth; by means of which chemistry discovers and explains the nature of the component parts of the earth and her surroundings; by means of which physics and astronomy reveal the evolution of the worlds, known and unknown; and by which mathematics affords the means to ascertain — as far as essential — the vast duration and extent of things and the distances of things, and affords some idea of the inconceivable magnitude of the universe of that infinite power's creation; are a further evidence of this grandly beautiful order and harmony. An order and harmony upon which we build the sciences, which we apply as an intuition, which is the only pretended warrant men have to doubt the existence of God. An order and harmony that discloses, in every field of human inquiry, adaptation to a given end. An end that points on earth—which man has alone to concern himself with, arriving at which he has attained complete happiness, which is all he strives for or desires—to a perfect autonomy, and, incidentally, complete happiness of all, equal intelligence and morality, perfect morality as far as man can or need attain the same, and a profound recognition of the Infinite Intelligence and Power, inherently, in conscience; when faith shall be that only which is perfectly consistent with the highest human reason.

Dr. Porter, in "The Human Intellect," says: "We assert that the relation of means and end is assumed *a priori* to be true of every event and being in the universe, and that the mind directs its inquiries by, and rests its knowledge upon this, as an intuitive principle. Our reasons for the truth of this position are the following:

(1). "The mind is impelled to seek, and is satisfied when it finds that any objects or events are related as means and ends." * *

(2). "The relations under which this axiom requires that objects should be connected, is higher than that by which they are united under the category of efficient or blind causative force." * * *

(3). "The principle has been of essential service in scientific discovery. It being conceded that the appropriate sphere of science proper is to develop and establish the so-called powers and laws of nature, and that the discovery of adaptations lies without its sphere, it is still true that the belief that the universe is full of such adaptations, is of essential service in suggesting powers and laws previously undeveloped and undetermined. The history of scientific discovery abounds in confirmations of this truth,"*

*"When Harvey observed that at the outlet of the veins and the rise of

(4). "The entire superstructure of the Inductive Philosophy rests upon the principle in question." * * * * "It has been already shown that the Inductive method rests on several assumptions. They are such as these: nature is uniform in her operations and laws; the indications or signs of less obvious powers and laws may be confided in; the analogies of nature are important means of suggesting facts and laws, and of inciting to experiment and discovery; the simplest relationships, the fewest agencies, and the most economical use of forces are always presumed. These and other like axioms of the student of nature are but varied applications of the principle in question; viz: *that in the universe objectively considered, there is an intelligent and wise adaptation of powers and laws to rational ends, and that the same is true of the relation of the universe to the knowing mind.*" * * * * * * *

(5). "It is also needed to explain those phenomena of organic existence, which the relations of efficient causes are entirely incompetent to resolve or even to define."†

---

the arteries there were lying within each certain valves, in the one opening inward towards the heart and in the other opening outward away from the same; he was persuaded that the arrangement indicated an end, which supposed activities and laws which were not yet known. The functions of the heart and the changes in the blood, so far as known, could not be accounted for by, nor could they account for, this structure. The arrangement of these valves, supposing that it was designed for some use, was most consistent with the contraction and dilation of the heart and the outflow and return of the blood in a double circulation through the body and the lungs.

When Cuvier found buried in the drift or the alluvial deposit, the thigh or arm bone of an animal, and pondered over the depressions and protuberances upon its surface, he observed that they were hollowed and elevated in such a way as to be specially adapted to a single description of muscles. These muscles in their turn, were adapted to the feet and claws of an animal who would spring upon, hold, and tear its prey. The length and shape of the bone required, by adaptation, bones of corresponding shape and size in the remainder of the limb and in the entire frame. Such a frame as this must be furnished with a peculiar head. Such a head could admit only peculiar jaws, and such jaws peculiar teeth. The teeth and fangs required a stomach and viscera fitted for the digestion of animal food. Guided by his belief in this complete adaptation of part to part, and of parts to the whole, he reconstructed the skeleton and the whole animal indeed, either in imagination or some representative material, in the full confidence that if such an animal did not then exist it had existed once, and this bone had formed a part of its structure. By and by he hears that it exists in some remote part of the earth, or an entire skeleton as like as possible to the one which he had built up in his museum." —["Human Intellect," fourth edition, p. 596.

†"The elements or agents of which these organs [of an organism] are composed, have their well ascertained mechanical and chemical properties, and when these are combined in inorganic substances, their results follow the laws which control them. But when they are combined in living beings or their

"Under these circumstances we resort to the relation of design in order to define and explain the phenomena. The adaptation can be scientifically expressed as follows: The constituent agents, beside the powers, as mechanical and chemical, which they are known to possess, are also so constituted that they can be combined in an organ or an organism, so as to sustain it as living so long as it in turn sustains them as living. Their power to do this is defined only by individual effects, but cannot be defined by any general formulæ. The materials can never a second time share—by giving and receiving—in the same life. That which makes them living, is their relation to one individual life. The variety of these adaptations is as great as the number of individual lives into which they could possibly enter. The action or function of each part and of the whole is as though an intelligence had carefully fitted each to the other, and controlled the mutual action of each by studied adjustments to every individual case."*

"Two facts are here suggested touching the relation of final to efficient causes. The *first* is, that the higher we rise in the order of beings, the less we know of the relations of efficient causes; but those of *final cause* are *more and more various and conspicuous.*" * *

"*Second:* The one of these relations does not displace the other, nor do discoveries in respect to the one either compel or allow us to dispense with the search after the other."

Then Dr. Porter answers the objections that might be urged to the doctrine that the belief in design is intuition. It is sufficient to say that he answers satisfactorily the objections that might be urged.

To the quotations above given, will be added one further quotation; before which, however, we desire to remark that we *quote* because we do not wish to do injustice to Dr. Porter, either by using the substance of his argument and failing to give credit therefor, or by weakening the argument by giving it in a less convincing manner than he has given it.

---

organs, these powers and laws do not explain in the least degree these compounds or their functions. The materials or agents which form the heart, the lungs or the brain, do not at all explain the peculiar substance, form, or functions of these organs; much less do they account for the higher capacity which they possess of producing a whole on which they depend for their own existence as a living heart, lungs and brain, and which in its turn as a living whole is dependent on each of these." (Ibid., p. 597). And he shows that *vital force* does not set it aside.

*"After no other relation can we explain how dead matter is transmuted into living particles, and how an aggregate of these particles is developed into living organs, which live together so long as the being lives of which they are parts. By no other law than that of design can we explain how each class of living beings works for itself, having a form, habits, tastes, and instincts peculiar to itself, and how each individual of each class is an end to itself, having an individual form, size, and other peculiarities more or less marked, according to its rank and place in the scale of being."—[Ibid., p. 598.

Beside the above, he remarks, *inter alia*, "the most instructive view which we can take of this principle is to contemplate the variety of its applications. Truths purely metaphysical, especially First or Intuitional Truths, are never apprehended in actual being as general propositions. They can only be discerned in the concrete, as they actually connect individual things or phenomena. Thus, we cannot discern causation or adaptation as *universal a priori;* we only discern an event or being as causative or caused as a means or an end. When we appeal to the use which is made of these relations in the sciences as proof that they are fundamental and intuitive, we expect to find that these sciences constantly assume these relations to be valid, by connecting their objects by means of them. The constant repetition of this relation and the important uses to which it is applied add incidental strength to the positive arguments for its being an intuition of the intellect."

He then treats of the application of the principle:

1. "(*a*). The principle of final cause regulates the formation of concepts."

"(*b*) The same principle must be assumed in the arrangement of a system of concepts as genera and species."

"(*c*). This relation is essential to an intelligible conception and definition of an individual."

"(*d*). The principle is of the greatest value as a criterion of truth and a rule of certitude."

"2. In the mathematics even, the presence of this relation is often recognized."

"3. Geology and paleontology both assume the truth and applicability of the principle of final cause."

"4. Philosophical geography gives a similar testimony."

"5. Comparative anatomy rests upon the same intuition."

"6. In physiology, special and general, similar relations are more numerous and manifest."

"7. In anthropology we trace these higher adaptations."

"8. In psychology the occasions for final cause are more frequent and pressing than in either physiology or anthropology."

"9. Ethics, the science of duty, which is so closely allied to, if it is not a department of psychology, is founded entirely upon the intuition in question."

"10. In theology, or the science of God, whether natural or revealed, the principle is of supreme importance.

All of which several propositions are argued by him at length,—the latter proposition quite fairly; the result of his argument is in consonance with the views herein expressed.

There is then, in all things, design. Design presupposing intelligence, there is intelligence. In proportion to the magnitude and perfection of the work designed and wrought is the intelligence, and if the magnitude is so great as to be illimitable, and the perfection so great as to be incomprehensible, then that intelligence is of a kind or form wholly inconceivable by man. And so we believe it to be.

Without limit, hence without time, without space, man can have no conception of the form and exact nature thereof. He is conscious it is, believes it infinite, all-mighty, all-wise, there his mental universe ends. So is he admonished, "Thus far shalt thou go, and no farther."

Thus adaptation shows—as it reveals the unbridgeable interval between the human being and the lower creation—the limit of man, the distance that lies between his God and him, and shows there is a God. We discuss the question now in another and slightly different aspect.

Man. Man is a human being, capable in the highest degree attainable by human power of self-knowledge; hence, as is indicated by Fichte, of the greatest self-command and morality. If all human beings were in this condition it would result that all would be equally moral, equally just, equally generous, equally supplied with the means of livelihood and equally happy, and all would live in concord. Now suppose, as far as possible, a human being arrived at this condition, what would be his notion of the Infinite Intelligence and Power?

Now the high spiritual state I conceive, is an inherent, inextinguishable consciousness of some power, mysterious, the nature impossible to conceive, yet—because of our very reason—felt, as it were, to exist; which with the increase and perfection of our reason, becomes more and more definitely fixed, a Being All Powerful, necessarily all-wise, omnipresent, and omniscient. This process of reasoning, or, rather, the mental state which is synonymous with this high spirituality, may, in some respects, be assimilated to the process of thinking by virtue of which, as the positive becomes clearer and more definite, the negative, correlatively, becomes clearer and more definite; yet, in attaining this state of spirituality there is not hard, cheerless thought, but a moral spirit implicated.

I think to the farthermost limit of my thinking self, and I find a boundary; I look out, objectively, at the existence around me and I find, that without eternal life there is a boundary, and until the human being acquires eternal life *there must be a boundary;* I conceive the process of my thinking and I am conscious it is conditioned, it is relative, and so impressed with the notion of my limit, I ask myself, can there be a state of *no limit* for the human being? and I must answer, no! But behind my thinking I am always bound by an intuitive notion of absoluteness existent, and this absoluteness, by virtue of the state it must have,—since there is power—must embrace all power, but the nature, or, if you will, the *real form of that power* I cannot conceive. I am satisfied with the consciousness of that power, the all-powerful, the all-wise. Now this being the highest spirituality, when acquired I inherently, purely worship God.*

We will close the inquiry by two further quotations:

"From the time the first sentient, reflecting being, distinguished as a human being, existed, the world—that is, man's world—was; not

---

*From my "Essay on Religion, from a Historical and Philosophical Standpoint," p. 10. Block & Co., Cincinnati, O. 1876.

before. Then we say the world began with the first human being. This world is man's; it does not comprehend the world beyond man; that is, the world of some Superior Power or Being."*

"Man recognizes nothing, and doubts the possibility of anything existing, except in the divine shape, superior to himself anywhere. But some thing or being superior does exist, which in man's world is the Divine Being, the Almighty Power, whose world is not man's."†

MORRIS M. COHN.

ST. LOUIS, MO.

Method of Instruction in Intellectual Philosophy in Hamilton College, Clinton, New York.

Four terms are given to Philosophical studies in Hamilton College, viz: one to Logic (Prof. Frink,) junior year; two to Psychology, (Prof. Mears,) and one to Moral Philosophy, (the President,) senior year. In the branch of Psychology, Sir William Hamilton's Lectures (Bowen's edition) is the principal text book. President Porter's "Elements" are used as supplementing Hamilton's "Doctrine of Perception," also as a substitute for the Scotch philosopher's very inadequate treatment of Imagination. President Porter's summaries of the History of the Doctrines of Perception, and of the Concept, are also used. Perhaps twenty lectures are given by the "Albert Barnes" Professor of Intellectual Philosophy, Prof. Mears. during the course, on Philosophy contemporaneous with and subsequent to Sir William, including a review of Mr. Mill's criticisms and an examination of the opinions of Comte, Spencer, Bain, and others of the modern English school. The main object of the lectures is to acquaint the student with the present phases of philosophical thought.

In order to develop more fully the original activity of the students' minds, questions suggested by the text book or lectures, for debate, are assigned by the professor of Intellectual Philosophy at regular intervals. While the text book is considered necessary to securing the concentrated and faithful attention of students in undergraduate classes, the development of original activity is also carefully provided for. This is secured in the department of psychology principally by means of debates on topics suggested by the text books or lectures, and assigned by the professor, in which every member of the class is required to take a part. The class is divided alphabetically into sections of six members. Each section is seasonably notified of the topic on which it is expected to debate. Sides are determined by lot. Seven or eight minutes are allowed to each disputant; the speaking is *extempore*. A few remarks are added by the professor. The exercise takes the place of a lecture or recitation, and occurs about once

---

*Ibid., p. 2. † Ibid., pp. 2-3.

in two weeks. Usually it elicits a lively interest in the class, and many bright and subtle thoughts scintillate around the well-sustained war of opinions. In order to a suitable preparation for the debate, the professor indicates the authorities on each side and gives hints as to the principal points. Among our most interesting questions are such as the following: "Is Philosophy the Most Useful of Studies?" Affirmative: Morell's Hist. Spec. Phil. Sec. 2; Porter's Human Intellect § 9-15. Negative: Lewes' History Introd. and p. 769 (Appleton's ed.) "Have we a Knowledge of the Infinite?" Aff., Porter's Elements, p. 550 to end, Calderwood's Philosophy of the Infinite, chap. 3, also pp. 379–387, 397–406, 428–436, McCosh's Intuitions, 186–201, note pp. 194, 195, Mill's Exam. I., p. 61–68, 102-124, Am. ed. Negative: Hamilton's Discussions, Mansell's Limits, lect. 2, 3, 4. "Is sight or touch the more important, in gaining a knowledge of the external world?" Affirmative: Hamilton's Reid, note E, p. 917, Helmholtz' Popular Scientific Lectures, p. 270, Am. ed., Locke's Essay, 2, 9-9. Negative: Porter's Elements, pp. 120–126, 154–164, Stewart's Elem., Vol. 1, 5, 2, §1, Thos. Brown, Lect. 29, Bain's Sense and Intellect, p. 366-373. "Is all Human Knowledge derived from Experience?" Affirmative: Mill's Exam., Vol. I., p. 80. 181–189, 307–321, Bain's Mental Science, p. 181, Appendix, p. 33, Ribot's English Psychology, pp. 100–104, 170, Lewes on Hume, Hist.. p. 577, Mill's Logic, II., ch. 5–6, Locke's Essay and Exam. of Malebranche. Negative: McCosh's Intuitions, pp. 20, 280; Defense of Fundamental Truth, p. 251; Hamilton's Reid, 749–754; Amer. Presb. Quar. Rev., July, 1868, Jan., 1866; April and July, 1869; Mansell's Metaph., 66, 248; Battle of the two Philosophies. See Littell's Living Age, 4th Series, Vol. 15, p. 451.

A small optional class in the original of *Plato's Phædo* is always secured toward the end of senior year, which is conducted by the Professor of Intellectual Philosophy. J. W. M.

CLINTON, N. Y.

BOOK NOTICES.

Table Talk. By A. Bronson Alcott. Boston: Roberts Brothers. 1877.

In the first part, or "Book I." we have under the head of "Practical," a series of eight chapters in which the paragraphs are classified as relating to I., Learning; II., Enterprise; III., Pursuits; IV., Nurture; V., Habits; VI., Discourse; VII., Creeds; VIII., Interleaves. The second part, or "Book II." includes suggestions on I., Method; II., Genesis; III., Person; IV., Lapse; V., Immortality.

We purposely call his treatment of the themes "suggestions," because it is of the nature of "Table-Talk" to consist of suggestions rather than to be full and exhaustive; desultory rather than systematic. There is however this great difference between the table-talk of Mr. Alcott and the other table-talks

so named: While the latter relate to themes of gossip, social or literary, or at best contain flashes of humor and critical insight, Mr. Alcott's table-talk relates to things *sub specie æternitatis* and is such as Tantalus might have heard at Olympian tables. In fact, as we look over the topics we see that the mystic philosopher has figured himself as sitting at a table of books and as conversing with the wits of all time—or rather as listening to their conversation and assisting in it himself.

Young people of enterprise often sit down with a famous book in their hands to try and discover what rare quality it is which has recommended the book to wise and great men. Their efforts are very disheartening. The book is dull, its topics seem remote from all present interest. Why should any one now be interested in such remarks and upon such themes? And yet the verdict of the great thinkers is that that very book is superlatively excellent. Is it written, then, in cypher, so that only the few initiated souls understand it?

To the inquisitive youth who desires to solve the problems of life and wishes above all to know what this secret thing called wisdom is—such a book as Mr. Alcott's is a timely gift. Let him sit down and listen to the table-talk and to the comments of Mr. Alcott, who is one of the peers, and talks from as high a level as any one of the bidden guests.

And who are the guests that sit at Mr. Alcott's table? They are not the "standard authors" found on the shelf in every cottage. But their list forms a part of the choice collection which Time has selected and indexed and which he keeps carefully dusted. They are Pythagoras, Plato, Proclus, Plotinus, Jamblichus, Plutarch, Marcus Aurelius, Krishna Dwaipayana (author of the *Bhagavad Gita*), Simonides, Cicero, Hermes Trismegistus, St. Augustine, Montaigne, Ficinus, Van Helmont, Erasmus, Dante, Glanvil, Novalis, Shaftesbury, Herbert, Dryden, Bacon, Henry More, Leighton, Cudworth, Jacobi, Bœhme, Oersted, Milton, Law, Evelyn, Kant, Richter, Wordsworth, Thoreau, Agassiz, Coleridge, Berkeley, Carlyle, Emerson, and a great company of equally rare spirits. At this table the youth may taste of the Seer's Rations—the ambrosial food upon which poets are fed. Mr. Alcott has described this diet in the following quaint poem:

[The Poet or Seer]

"Takes sunbeams, Spring waters,
Earth's juices, meads' creams,
Bathes in floods of sweet ethers,
Comes baptized from the streams;
Guest of Him, the sweet-lipped,
The dreamer's quaint dreams.
Mingles morals idyllic
With Samian fable,
Sage seasoned from cruets
Of Plutarch's chaste table.
Pledges Zeus, Zoroaster,
Tastes Cana's glad cheer,
Suns, globes, on his trencher,
The elements there.
Bowls of sunrise for breakfast
Brimful of the East,
Foaming flagons of frolic

Sovereign solids of nature
Solar seeds of the sphere,
His evening's gay feast.
Olympian viand
Surprising as rare.
Thus baiting his genius,
His wonderful word
Brings poets and sibyls
To sup at his board.
Feeds thus and thus fares he,
Speeds thus and thus cares he,
Thus faces and graces
Life's long euthanasies
His gifts unabated,
Transfigured, translated—
The idealist prudent,
Saint, poet, priest, student,
Philosopher, he."

This diet, which is so inspiring to poets, is found to be so dull and uninteresting by the ordinary reader as to exasperate him and cause him to express his disappointment in unmeasured terms.

Doubtless, in this realm of literature each one may choose for himself his own table. If not pleased with his viands he can easily take others. Still for the youth who desires to make thorough work, and correctly estimate the utterances of the men who have borne so great a reputation for wisdom, it is not quite sufficient to read the label "*Ueberwundene Standpunkt*" and pass by on the other side. What is this standpoint which once had validity and is now outgrown? Are our literary critics as wise in their day and generation as the scientists with whom they affect to affiliate? Do they take lessons of Darwin and of the Darwinians in Ethnology, Philology and Civil History? Is not this *historical method* the true scientific method as expounded by Hæckel and Huxley and Tyndall? Its method is valid not only in the study of plants and the lower animals; in the evolution of human civilization from savagery; of language from inarticulate cries, but also of ideas and the primordial archetypes of principles upon which have been built the institutions, creeds, and literary conventionalisms of the world.

If a young man aspires to be a scientific man, and to understand his theme, he does not hesitate to study with the utmost diligence and affectionate interest the accessories and their historical catenation. There are too many young men who set up for literary critics without feeling the same broad scientific interest in literature and its accessories. They are not the botanist but the gardener's hired man, who cares not a fig for any plant except his beets and cabbages. Anything else—be it a *Victoria Regia* that has sprouted accidentally between the cabbages, is only a pestilent weed, and is at once to be pruned with the hoe. Such rough work is necessary in the market gardens in order that we may have our salad at the noonday meal, but such work in the literary garden has no good purpose at all. It spreads a narrow literary bigotry which is conceited enough to believe that the true canon of criticism is its own individual taste: "That is good because I like it." The prevailing literary fashion is set up as the true standard of nature.

Hence it comes to pass that with equal reason one condemns the application of the historical method to plants, animals and nature-processes by Darwin, Tyndall, and Agassiz on the one hand, and the same application by a writer on philosophy and mysticism on the other. There are self-styled philosophic writers who never lose an opportunity to sneer at scholasticism as if the scholastics were all a set of fanatics (*gens ratione ferox*). The mystics who succeeded the scholastics are treated worse by the same modern authorities.

Apparently they suppose that the nineteenth century has been possible without the ninth century—that our civilization and its appurtenances has not grown out of the past at all. They do not know that the Christian theology was wrought out by the scholastics, and that nothing of it would exist now if it had not been for those four earnest centuries of thought and debate on the nature of the soul and on the objectivity of thought. They do not know that the insights which lie at the bottom of all our modern literature and render it the powerful instrumentality that it now is, trace their source to the mystics of the later middle ages, and have been drawn up out of the fountains of their deep minds. Without those insights literature would serve no better purpose than the bells that jingle on the garments of a clown.

"But this nineteenth century exists; our literature exists; scholasticism and mysticism are things of the past; what more do we want of them?"—Animals may exist without self-knowledge, but not as *men*. Self-knowledge is essential to man. He needs to understand himself as well as to be.

One of the important functions of literature, it is true, is the amusement of society. But amusement is not to be considered its only function nor its highest function. Art is the revelation of Reason in forms appreciable by sense-perception. Seeing and hearing enable us to enjoy music and the plastic arts. Imagination is the *sensus communis* through which the soul may realize any one of its sense-perceptions in a free manner by its own activity. It is to the imagination chiefly that literature appeals for its sensuous effect. It does not reach the senses directly, but only the higher and reflected form of the sensory —the reproductive imagination—and this form is adapted to a higher art than music or the plastic arts. It is a purer manifestation of Reason.

The rational content of a work of art is to be sought in the mode and manner in which it portrays human life; for all art must portray human life directly or indirectly. Even the picture of a landscape or a Greek temple does this indirectly; suggesting by symbolism a correspondence (spiritual metonymy) human wants and aspirations and human adaptation and uses.

Portrayal of human life is the basis of all that contributes to his amusement or diversion. The grand fact of human life is self-consciousness. It begins in self-symbolizing, and Aristotle defines man as the mimetic or symbol-making animal. Amusement has always this content of self-portrayal. It is the spectacle of one's strength, endurance, fortitude, weakness and wickedness, gracefulness, daring, cunning, policy, wisdom, &c. The spectacle is that of one's self or of his race. Even a dog-fight interests through sympathy. The rough man personifies, as it were, the canine duelists, and glories in their exhibition of qualities that he prizes as human.

Amusement is the crudest form of this human activity of self-portrayal, and it ascends in a continuous scale towards perfect self-consciousness in pure thought or absolute science. What Plato calls in the "Republic" the Dialectic

Method—what Aristotle calls the theorizing activity (the Vision of Self-Activity) or the knowing of knowing (*νόησις νοήσεως*). Through all its degrees it is human pleasure and human profit or culture. The finite, temporary, transient side of it is happiness or pleasure—the substantial, essential, eternal good of it is culture—the elevation of the soul into consciousness of its divine archetype—consciousness of its pure activity as Image of the personal God who creates in order that his creation may result in conscious communion with his creatures.

This high final cause of human culture being the rational purpose of all art and especially of literature, the semi-religious, semi-literary, semi-philosophic forms of it, such as we find in the writings of the mystics, ought to possess great interest for the literary critic. Who can be called a competent critic of the literature of to-day, if he knows nothing of the genesis of the humanitarianism which inspires the prolific creation of the novel? Of course he cannot map out nor explain its course, knowing nothing of its far-off origin, and nothing of its inevitable progress to the sea. Its changes on the way are not to be explained by him. He will treat them as good or bad things just as they happen to strike his individual likes and dislikes, and their significance will be unknown to him. But the critic who studies the interaction of Christian and Moslem thought (of Oriental Monistic Pantheism with Occidental Trinitarian Personal Theism) and sees the clear thought reached by Albertus Magnus and Thomas Aquinas embodied by Meister Eckhart in a mysticism which could be preached to the common people and made the daily food of the soul in the writings of Tauler, Thomas à Kempis, and their followers throughout Christendom, can discover the transformation of the idea of purgatory as held by the Church in the middle ages, into an inward and more spiritual doctrine. For purgatory is the Catholic form of the Protestant humanitarianism which is the burden of our later and latest history—our democratic institutions, our great charters, constitutions, house of commons, universal suffrage, anti-slavery wars, our common schools, &c., &c. It is the spirit that guides the pen of our Dickenses and Thackerays. It believes practically that life is for growth and culture. Philanthropy wishes therefore to realize the rational possibilities that exist in the lowest and most degraded that wear the human form.

But whither does this all lead, and what direction will it take or *should* it take? Of this we can learn by studying its purpose or final cause as revealed in its origin and its past course—but not by merely trying its taste on our literary palate. What amuses us or delights us is well enough for our diversion and possibly for our culture, but the immediate sensation is not at all adequate as the foundation of critical canons.

With this in view it is to be regretted that some high literary authorities have chosen to ignore the rare merit of the books which Mr. Alcott has given us. His "Tablets" and "Concord Days" (noticed in this journal July, 1868, and Oct., 1872) together with this volume of "Table-Talk" are invaluable to all who wish to reach the standpoint of the true critic or to see the field of literature in its true perspective. To Mr. Alcott the atmosphere and mode of thought of those earlier stages of literature are congenial—they are not an *Ueberwundene Standpunkt* to him. To us who wish to study them and revitalize their forms, no other help can be so valuable as the help of one who lives in them and thinks with them.